BRITAIN'S ONLY MAGAZINE DEVOTED TO THE AMSTRAD CPC 464, 664 AND 6128

No. 13 OCTOBER 1986 £1.00

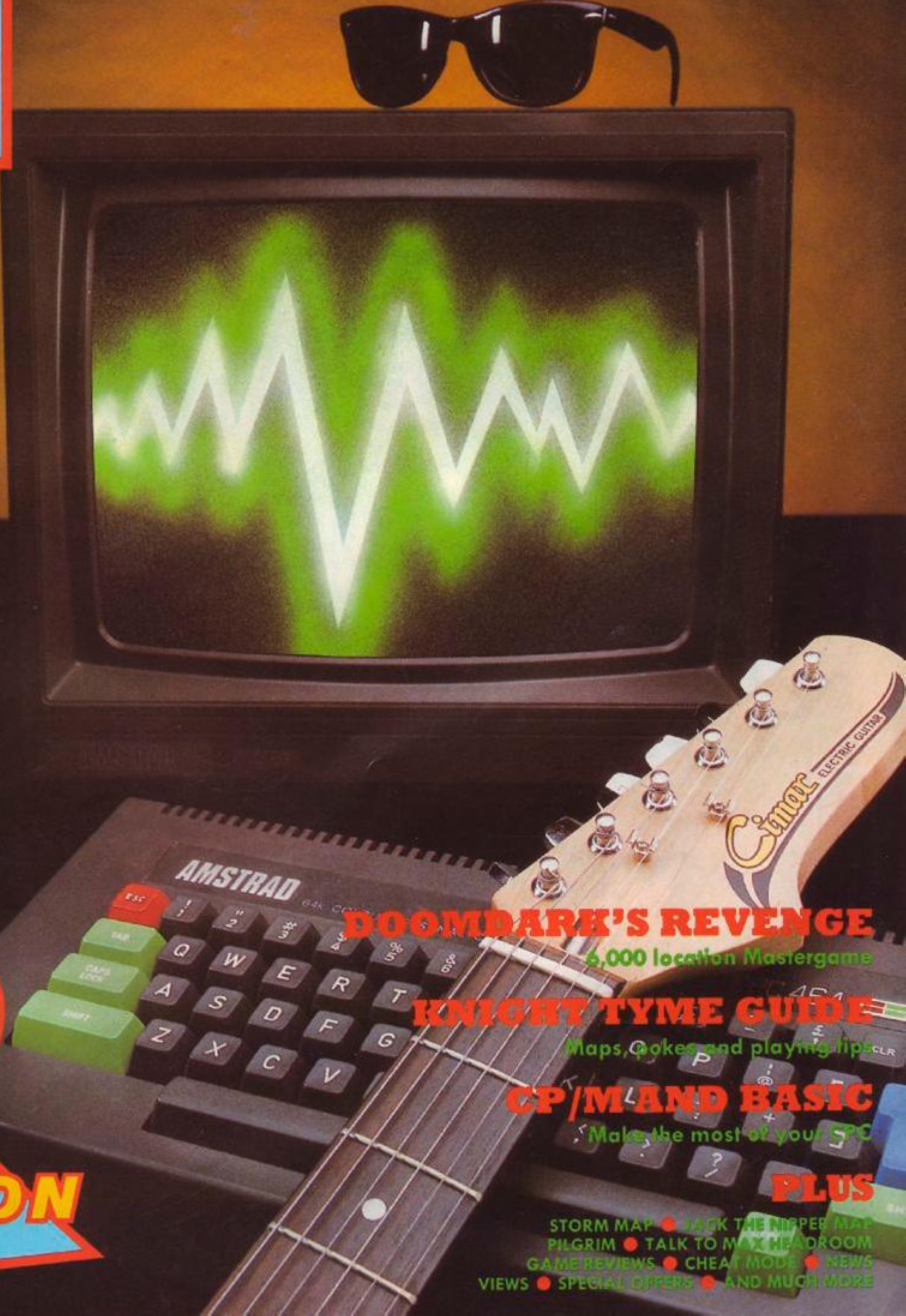
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AMSTRAD ACTION

THE MOULD-BREAKING MAGAZINE FROM FUTURE PUBLISHING

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6,000 location Mastergame

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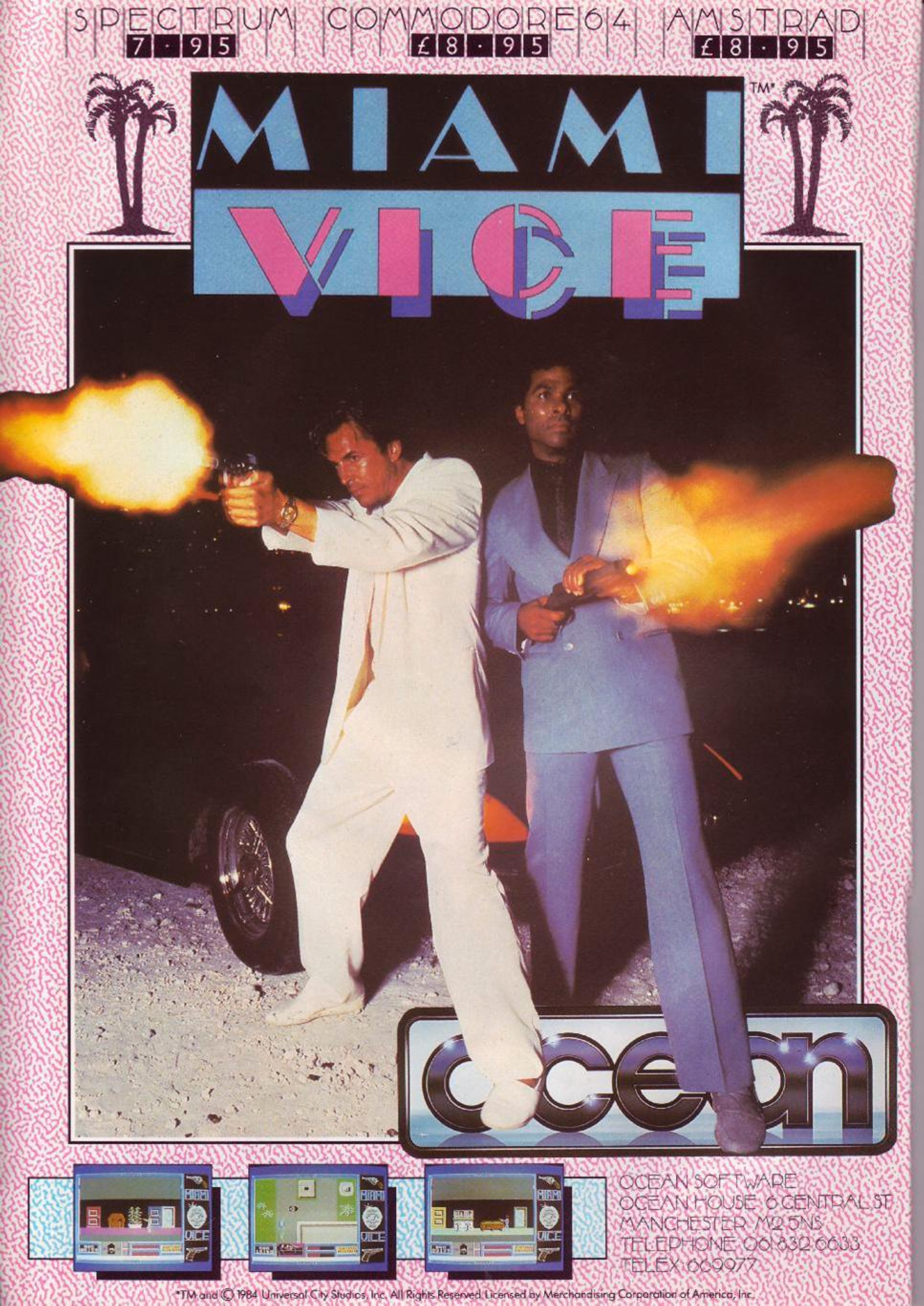
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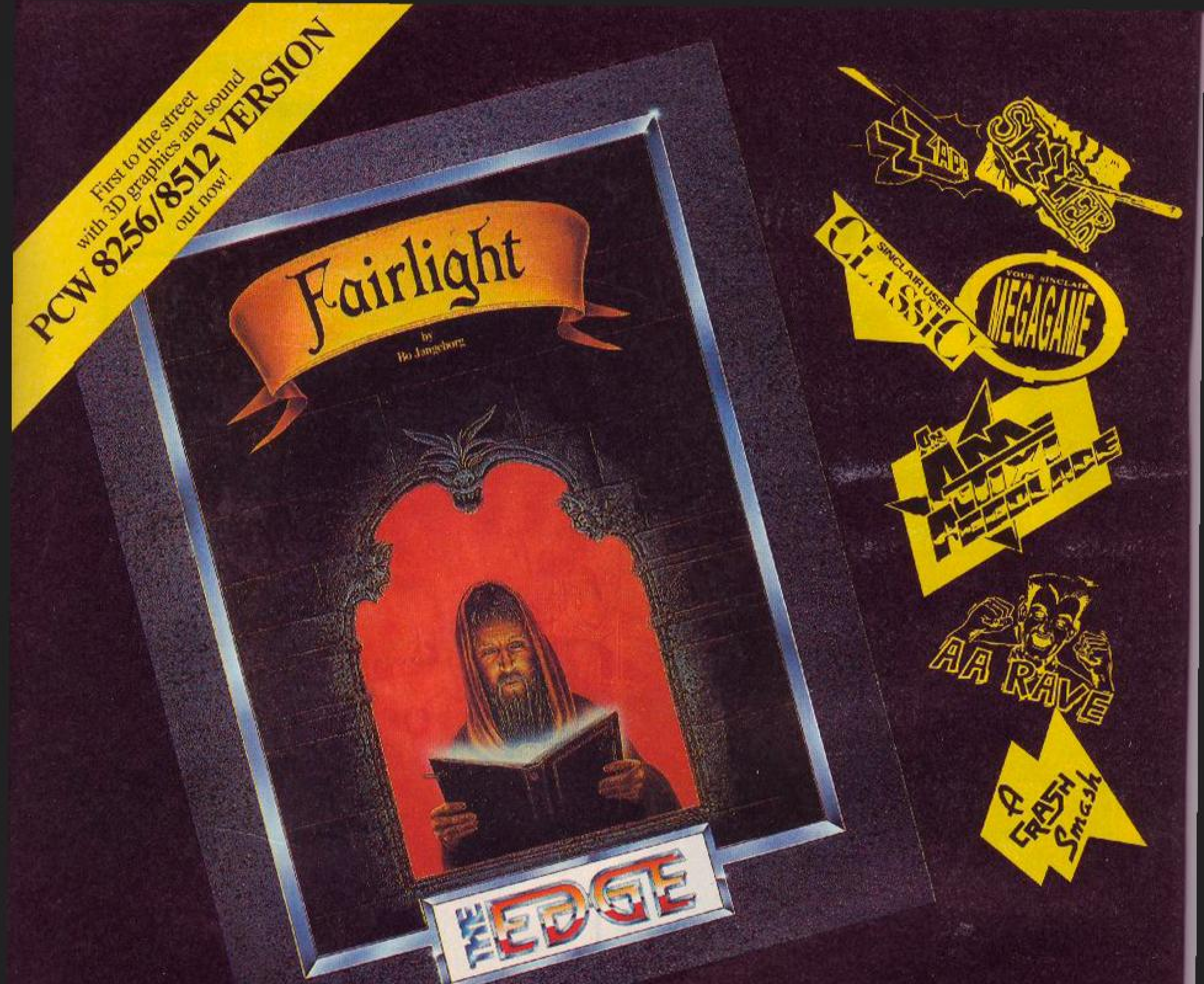
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The Edge have you got it?

"The Edge'll have to move to new premises to make sure that they've got room on their office walls for all the awards they have won (for Fairlight)..."* CRASH April 1986
(P.S. — We've moved!)

The Edge, 36-38 Southampton Street, Covent Garden, London WC2E 7HE. Tel: 01-831 1801 (4-lines). Tlx: 892379.

*Crash Readers voted Fairlight 'Best Graphics,' 'Best Music,' Best Arcade Adventure,' 'State of the Art Award' for 1985.

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Life at the Old Barn is certainly all Action these days, with changes happening almost too fast for us to tell you about them. Observant readers will have noticed a new addition to our staff this month: Jim Nagel joins us to look after the production side of *AA*. He lives in nearby Glastonbury, has worked on several daily and weekly newspapers both here and in Canada, and has even been a teacher in his time. He's good with words too!

Really observant readers will notice Bob's lightning promotion to Deputy (attempts to get him a sheriff's badge were fruitless!). This is because I, though still editor of *AA*, am also editing a new title, *PC Plus*. For the full story see Amscene on page 14.

But we have still managed to bring you an Action-packed issue of *AA* this month – with a seven-page special on music. Yup, the offices have been ringing with Arnold's dulcet tones all day long, and if you want to get in on the act, have a look at our Special Offers on page 78. And *AA* is now totally devoted to the CPC models, so everything in these pages is for your machine. Good reading!

Matt

TELEPHONE HOTLINE

Due to the huge number of phone calls we get every month from people having problems with Arnold, we have decided to set aside some time for answering your calls. The phone number is **(0458) 74011**; feel free to call any time on **Mondays between 2 and 6pm**. But please don't ask us to solve games problems for you. If you do have a problem with a game then look at our Cheat Mode pages, or check out the Pilgrim's Lords and Ladies of Adventure. Any problems with Cheat Mode or Type-ins cannot be dealt with at any other time.



MANY THANKS

Our thanks go to **The Music Mill Limited** of Mill Lane, Yeovil, for the loan of the guitar featured on our front cover. Also, many thanks to **Hemispheres** of Sidetrax, 58 Park Street, Bristol, for the shades casually donned by Arnold for the shot. These cost £4.95, but **Hemispheres** tell me they will knock 10 percent off the price to anyone carrying this issue of *AA*.

Bye-bye hi-score

Okay, okay, we're sorry we've dropped Hi-Score from *AA*, but I'm afraid it just had to go. We had no way of checking the hundreds of entries, and we have better things to do with the space. Instead we have introduced **First-Day Target Scores** on all our reviews, which should give people a better idea of whether they are doing reasonably or failing miserably.

Wanted - an Amstrad buff

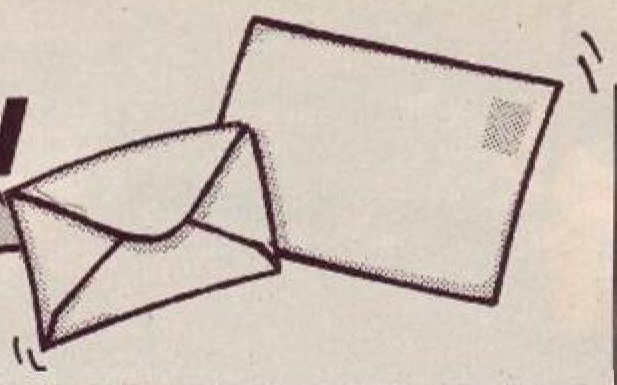
The Future Publishing Team is expanding at the Old Barn, and we find ourselves in need of an Arnold enthusiast urgently.

The person we are looking for should have a pretty thorough knowledge of the Amstrad CPC range, both hardware and software, and be able to write to the *AA* standard too - which as we all know is pretty high! He or she must be prepared to do anything from making the tea or answering the phone to writing the Mastergame review. We are particularly looking for someone with a technical bent, so fluency in Machine Code would be handy, though not vital.

The job will of course be based in Somerton, which is a small country town with little in the way of nightlife or public transport. It cannot compete with the bright lights of London, but if you like fresh air and countryside it's got a lot to offer.

If you think you might fit the bill, then send us a letter giving personal details, together with a CV, a typewritten sample of a games review and a serious software review. Send it to **Amstrad Buff, The Editor, Amstrad Action, The Old Barn, Brunel Precinct, Somerton, Somerset TA11 5AH**

RE-ACTION



We've received a flood of letters once again, including many pleas for Toot and *Voice of the People*. Toot fans should see our last issue, and as for *VOP* – if you don't send us your views then we can't print them!

Among the many pleas for more disk-based *Cheat Mode*, Liam McMaster raises a controversial moral issue and Ian Grainger deplores the rising cost of games. *Problem Attic* is bursting out of its rafters, and technical wizard Andy hasn't been seen for days, up there sorting out your problems.

If you fancy seeing your name in print – and you may win a £15 software voucher – then why not write to: ReAction, *Amstrad Action*, Somerton, Somerset, TA11 5AH.

Cheat Mode for disk

I have recently purchased a 6128 and two disk games, *Spindizzy* and *Batman*. Both computer and games are proving excellent value for money. I was very pleased upon reading your magazine that you have a Cheat Mode section, as infinite lives or time on both the above games will not detract in the least from the pleasure of playing them.

Therefore my disappointment was all the more when I discovered that Cheat Mode deals only with tape games (as, I should add, do the other magazines.) I hope in future Cheat Mode can be extended to disk games, especially as these are on the increase. I would be delighted if you could send me the disk Cheat Modes for *Spindizzy* and *Batman*, if anyone has found them.

J Alderton
Aughton, Lancs

Cheat Mode does indeed deal mainly with tape-based games, though we have printed quite a few pokes for disk games recently. We can only print the pokes that you send in, so please send us more disk pokes!

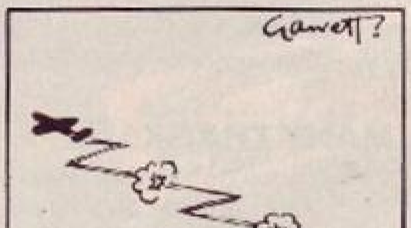
Flying between Arnolds



A friend and I are desperate to find any games, especially flight simulations, which can be run between two Amstrads simultaneously. We both own 464s and so far we know of only PSS's *Tobruk 1942* which has the option to run on two Arnolds at the same time. Please help us out of this predicament.

Mr C Alexis
157 Reigate Road, Downham
Bromley, Kent
BR1 5JL

That's the only one we've heard of too!



"LOOKS LIKE HE'S TOO USED TO USING THE JOYSTICK WITH HIS AMSTRAD..."

No sweetness for Sugar

Incentive will soon release *GAC Plus* and they will give an upgrade to the owners of *GAC*. That's what you call good customer service.

So much for Alan Sugar and his customer service. Where's the upgrade for my CPC 664? Did you hear about his £28 million profit? Couldn't he spare some and remove the lingering bitter taste from the mouth of every 664 owner?

My friend also has a CPC 664 with a DK'tronics 64K expansion. But that puts strain on the expansion port, as the ram expansion does not level with the base of the computer – although it fits perfectly on the 464!

So you see why it would be better getting an official upgrade. There is also software that uses the CPC 6128's extra memory, which means CPC 664 owners would have to buy a 64k expansion or the tape version (if there is one), contradicting the fact that the CPC 664 was built for fast access to software. Isn't there a law against misleading information?

Well better cool off before I do something wicked like burning the nearest bag of sugar!

Why not do a survey to find out how many CPC 664 owners are out there?

A CPC 664 owner
Belfast

There is a Vortex RAM upgrade that actually fits inside the case of your computer, so putting no strain at all on Arnold's case. It was reviewed in our March '86 issue.

On your main point – that's the computer business I'm afraid!

Cheating on the 6128

I own a one-year-old 6128 with a few (notice the stress on the word few!) items of software. I am also one of those Cheat Mode fanatics and like hacking at games – well, trying to. But, there is one main drawback: all of the cheat modes printed in *AA* are for Arnold, and I find this very annoying, since I have a very rickety tape lead. So I am pleading for all those hackers out there to get cracking on some disk-based hacking programs.

Andrew Fraser
Marnhull, Dorset

You'll be particularly pleased with the Sorcery Plus *pokes in this month's Cheat Mode – which were received from readers. Let's have more!*

Beware Kat's revenge!

Some of your game reviews do not mention all of the game's features. For instance, why didn't you mention the tune at the beginning of *Turbo Esprit* or the music in *Elite* or the shape-change feature in *Spindizzy*? I could list several more. It doesn't matter to miss out these things on lower-quality games, but two of these were mastergames!

Do you know if any of these games are to be converted to the Amstrad: *Uridium* (Hewson Consultants), *Ace* (Cascade), *Pitstop 2* (US Gold/Epyx), *Speed King* (Mastertronic)? I have seen all these on the Commodore 64 (horrible word) and I think they are first-class.

Finally, thanks for a great mag, and for the remote-control car I won in your Killer Kar Komp. I use it to chase my cat.

Ken Murfitt
Crawley, West Sussex

All the features you mention don't affect the essential gameplay. We leave you a few pleasant surprises without missing anything important.

Conversions: no, yes, no, yes.

Pussycat: not the purpose for which prize was provided. RSPCA and AA alerted.

Good game, decent joystick

Cor!! Strooth!! You know how to make a frooby mag, don't yer? August issue was brill and hi to Matthew Denning, Sean Murphy and Stewart Wilson (see hi-score charts).

Apart from all that bumpf I would just like to say what a brilliant game *Kane* is and what value (look out all you big houses.) If it wasn't for *AA* I would never have bought it.

I would also like to recommend a joystick that'll beat all others on performance (although it doesn't have buttons and switches and knobs everywhere). It's the standard Atari joystick. The one I have has taken severe battering off Daley Thompson, Geoff Capes and others like 'em. Fairly cheap too.

Well, keep up the good work on a great mag and keep up the good games, Mastertronic. Yours, chuffed and over the Moon,

Mr Spaceman
York

Moral issue

I think I ought to tell you my opinions on using contemporary issues as plots for computer games, eg *Theatre Europe* and *Raid*, in order to show the other side of the argument.

You cannot deny that young children will play the game, and so nuclear annihilation will become a casual thing. They will then no doubt grow up with this attitude of ignorance and sheer stupidity to the impending doom. On the other hand, they could ask their parents about it, and either get a disturbing answer or at least place the parents in a difficult position. My young brother is one of these.

Why then do software houses do it? Alienating your public makes nil business sense and making games about nuclear weapons make nil moral sense.

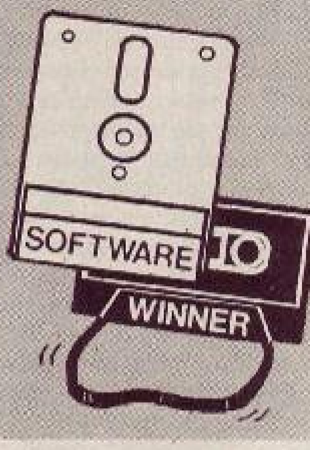
Think about it!

Liam McMaster
Whitehaven, Cumbria

You obviously have a very valid and important point, which we would not disagree with in any way. Our only reason for replying at all is to defend Theatre Europe *as it does, at least, take a certain moral stand on the nuclear war scenario. First of all, if a player does decide to use nuclear weapons in any way then he or she needs a special code in order to deploy them. The only way of getting the launch code is by phoning a number that appears on the screen. Phoning this number does give you the appropriate code, but also plays a dramatised tape that warns you of the consequences of using such weapons in real life.*

Furthermore, if the player decides to use nuclear weapons anyway, he or she will find that it does not result in winning, but in the eventual annihilation of their forces. Theatre Europe *does take a strong moral stand in this sense, and could even be regarded as educational – but whether it should have been released in the first place is another matter.*

If you take this stand then games such as Green Beret *or* Rambo, *encouraging you to hack, burn, or generally maim 'enemy' soldiers without any kind of moral message, are rather more damaging. We would be interested to hear the views of other readers on this subject.*



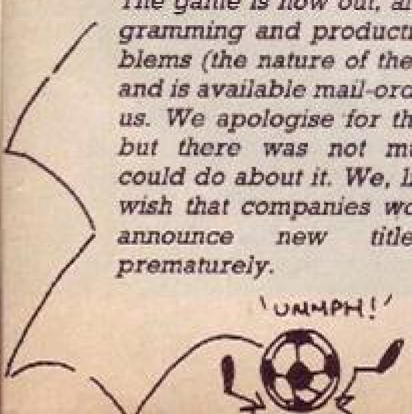
Where is *Big League Soccer*?

Your answer to Mr T Fenton of London in the April *AA* regarding the attempted purchase of software was, 'Wait till the game's actually reviewed or the news pages of a mag tell you it's definitely out, before you send off for it.' I took your advice on a game given an *AA* rave on page 72 of the same issue: *Big League Soccer II*. So in June I sent off my cheque via your mail-order discount service. A couple of days later I received a compliments slip saying *Big League Soccer* was not yet released and a copy would be sent as soon as possible. Now having taken your advice, it appears to me that we cannot trust yourselves.

It appears to me that this happens quite often. Why don't you publish a blacklist of software houses that take us poor Amstrad users for fools? Many of your readers must be very disappointed when they find they are not able to purchase a game after having read reviews.

A W Dodd
Stockport

The game is now out, after programming and production problems (the nature of the game), and is available mail-order from us. We apologise for the delay but there was not much we could do about it. We, like you, wish that companies would not announce new titles too prematurely.



Prophet of profit

Back in the autumn of 1984, when I first considered getting my beloved Amstrad and left my Spectrum (am I allowed to say this?) to gather dust, a rather well-known software company called Ultimate Play the Game brought out the most fantastic game of the time for the old rubber plantation (you know, the Spectrum – oops sorry!) It was called *Knightlore*. It revolutionised the games market and Ultimate, realising this, upped their prices from £5.50 to an incredible £9.95, almost twice as much.

Nobody seemed to mind as the game was so brilliant, and the game went soaring to number one in the charts. Other software houses, seeing the tremendous success of the game, decided that if such a highly priced game could go to number one, then they would put up their own prices. So the public went out with a tenner in hand, bought what must be brilliant game because it cost them a tenner, got home, loaded it up, and then cried their eyes out wondering what had happened to the state of the software market.

This is why now, nearly two years later, the public is still paying a tenner for *Knightlore* clones such as *Batman, Get Dexter* and *Fairlight*. I know they are all good, but surely they would sell more copies at around £5, thus making a bigger profit.

The thing that really gets me though, is that I can get a better-quality game, from a budget company called Mastertronic, called *Knight Tyme*, at a price of £2.99. I wonder where the other companies' profits go. Into the petrol tank of their programmer's turbo Porsche perhaps – if it gets to the programmers!

I'll wait to tackle the price of disk software next time around – if my disk-based word-processor hasn't been repossessed.

Ian Grainger
Wingate, Co Durham

Swallow our medicine

I have been a regular subscriber to computer magainzes since 1979 and bought my first micro in 1980. In that time I have seen some utter rubbish printed in reply to readers' queries, but nothing so far can compare with the August *AA*! Most of your replies managed to avoid saying anything concrete, but when you did, oh boy!

First: your reply to Paul Webb regarding his problem with *Protext* on ROM and *Cyrus II Chess* on disk. Arnor included a command |ROMON7 in the *Protext* ROM which resets the computer but without initialising any ROM except the disk ROM. Instant emulation of a *Protext*-less Amstrad.

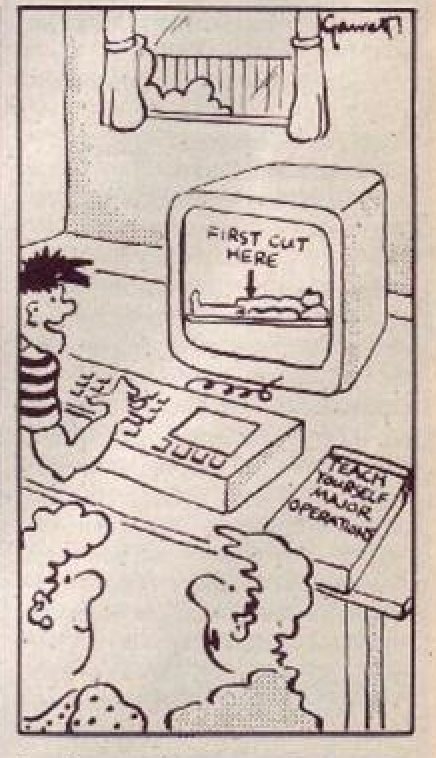
Second: your reply to Robert Lamb about swapping software. There is no reason why he should not swap tapes, disks, ROMs – computers even! – as long as they are originals. Your analogy to books is ludicrous. Books and records are *better* protected by copyright than programs, but I can buy an album, play it and then sell or swap it. Of course, if I tape it first I am breaking the law, but *that* is where the offence lies, the copying and not the swapping.

Third: your reply to T A Gray about ye olde double-linefeed problem. Well, all right, I almost agree with you here, it should be possible to configure any word-processor to cope with CR only. Your solution will not allow proper double-spacing, subscripting, etc. The simplest (reversible) hardware fix is to put a sliver of tape over pin 14 on the edge connector.

You may find it hard to believe after all that, but I actually like *Amstrad Action*. So keep up the good work, but do ensure your thoughtware is running before starting your word-processor!

Dr Patrick J R Harkin

PS. If I don't win some software, I shall write to you again, so there!



"WE'LL SAVE A FORTUNE ON MEDICAL SCHOOL FEES..."

PPS. In case you're wondering what micro I had in 1980, it was a 16K Exidy Sorcerer (takes you back, huh?) which I had bought while I was still a medical student. Two degrees (medicine and genetics) and three computers (Dragon, Spectrum and 6128) later I now lecture where I was once a student

and have introduced computer-assisted learning into our undergraduate curriculum of pathology.

First: if you have read the September issue you would have seen a very informative letter from Arnor pointing this out. We have stood corrected already.

Second: you are technically right of course, but it is so easy to copy game cassettes before lending them on that we feel that we should warn our readers against clubs whose main activity is swapping games, as they may well be involved in software piracy.

Third: slivers of tape have a horrible habit of disappearing inside your Arnold.

We look forward to your points four, five and six.

Anyone for chess?

Does anyone know of a chess game that two can play, instead of playing the computer? Also are there any amateur radio readers who know where I can get some information on the use of the Amstrad with radio?

And are you able to pass on to the readers that I will swap a 16-bit TI99/4A computer with joysticks, games, mags and a personal record-keeping module, all in new condition, for a printer that will fit the Amstrad 664?

Many thanks for an enjoyable mag.

William Fairbairn
5 Dumbarton Road
Fort William, Inverness-shire
PH33 6UU

Both Cyrus II Chess *and* Colossus Chess 4, *from Amsoft and CDS respectively have two-player options. Of the two we prefer* Colossus Chess.

On your second point, there are numerous books available on the subject of communications, some with chapters specifically on radio comms. We suggest you scour the bookshops for a suitable book on the subject.

Allo-allo-allo

Every now and then my Ammy picks up the local police radio. It's weird when your computer starts speaking to yer!

James Bland
Stonehaven, Aberdeen

Tech ed says his hi-fi (not an Amstrad) picks up police, but has never before heard of Arnold behaving in such an illegal manner.

Letters ed cut a lot of this six-page epistle. Keep 'em short!

Share your printer?

I need access to an Amstrad printer, and I was wondering whether any readers could help me; I'd obviously pay for the use of the peripheral.

Paul Gill
19a Bradgate Ave
Cheadle, Cheshire
SK8 3AQ

A friend in need

During an idle hour last night, which I spent reading back numbers of your magazine, I could not help noticing that in the letters section the same complaint came up several times. What is this recurring complaint? It is simply that many people are feeling cut off and on their own as far as their hobby is concerned. Not for them the gregarious pursuits of the Spectrum/Commodore 64 owner, due mainly to having the only or perhaps one of the few Amstrads in their area. It was with this in mind that I decided to offer these poor souls some help, having suffered the same complaint for over a year myself.

What kind of help would be required or sought I have little idea, but as a start a postal user club with nominal fees would be a step in the right direction. This decided I have taken it upon myself to try to organise this. At present the format of said club would be no membership fee, a once monthly (to start) newsletter containing programming hints, pokes for arcade games, help with adventures, and perhaps a swap shop area for members.

Obviously this format is open to change if there is, for instance, any area where members would like more or less time/space devoted. Also, open access listings could be included; or this area might be better catered for in a tape/disc format. All this and more would be left entirely up to any members concerned.

The above scheme, while practical, stumbled at the very first hurdle in that I was unable to contact these potential members due to your habit of not printing full addresses. While I understand that this may be a legal requirement I give full permission to publish my address as otherwise there can be no replies.

Gordon Yacomine
30 Finavon Street
Dundee
Scotland

As you can see, we are quite happy to print your full address there is good reason!

Colour programming

I have only recently deciphered the Amstrad manual and can now define characters using the symbol command. But you can use only one colour using this method. I have got more than one colour by setting the characters transparent and putting two characters on top of each other. This takes a lot of time. Is there another way?

Could you also do a review of some of the speech synthesisers around? Is *Speech* from Superior Software (advertised in August issue) available in the shops yet?

You have the best magazine on the market. Don't go changing it too much and make sure Joyce doesn't take up too much space.

By the way your Type-ins are getting better and better. Blitter was first-class, and Bouncers was great too.

Mark Baron
Poole, Dorset

I'm afraid you're already using the fastest method of producing multi-coloured characters, short of writing your own routines in machine code.

We have had a production copy of Speech, *and hope to review it next issue.*

As for your worry about Joyce taking over, Arnold has this magazine all to himself now; Joyce is out on the streets this month in her own title, 8000 Plus.

Defining *Tasword* keys

Hullo there, you lovable loonies. Anyone who can make a career out of zapping whatzits and dodging thingamybobs must be looney. And my grandpappie would have sound advice for you lot: 'Go out and get a proper job!' Thanks for a smashing magazine.

As even perfection has room for improvement, how about a retrospective index to past games and reviews?

Now chief guru of the 464, please help me if you can, or publish my address so those fantastic readers of yours will help me out of my misery and let me in on the secret they will no doubt have long since worked out.

The *Tasword 464* word-processing program has the facility to redefine some keys for words which occur often; however, they limit the number of characters, for all keys, to a mere 120. As I would like to use far more than this, is there anyway to poke or otherwise alter the program so that I can have at

Your loftier questions

PROBLEM

least 2000 characters?

Please explain in the simplest of terms as I am an A-pert (opposite to X-pert). If there is no solution could you tell me if there is a word-processing program which could give me this facility?

E K Scott
London N14



"YOU KNOW - I ALWAYS THOUGHT A WORD-PROCESSOR WAS A BIT DIFFERENT..."

I don't know of any word-processor that allows you to insert so many characters with a single keystroke. It sounds to me as if you are approaching the problem from the wrong direction. Presumably you have whole paragraphs of text that you often need to insert into a document. The best way is to store these as separate files on your work tape or disk (it really comes into its own with a disk-based system). You can then use the 'merge' facility in Tasword *to insert these files at the current cursor position. If you have problems then certainly both* NewWord *and* WordStar *have this facility.*

Joyless stick

When we got this month's *AA* I was pleased to see you were offering a Konix Speedking joystick, so I went and got the issue in which you had reviewed it.

My heart sank when I saw that it just used microswitches,



answered — *Your loftier questions answered*

ATTIC PROBLEM ATTIC

for when I first got my computer I got a Quickshot II joystick. Pretty soon it started to break down. We got a replacement, assuming we must have had some bad luck. But when I plugged it in, I discovered the same thing again! When we returned this one and asked for another replacement the man said that he was not stocking Quickshot joysticks any more.

So I got an Amsoft JY2 joystick. This was all right for a few months until one day playing *Harrier Attack* it didn't respond. Then a few weeks later two of the suckers ripped off. All of the joysticks were microswitch joysticks, so you can see why I am very wary of the Konix Speedking. Is this joystick as durable as you say?

Oisin Lawless
Dublin

I don't know what makes you think the Quickshot II and JY2 are microswitch joysticks, but I can assure you they aren't. They both use 'popper-button' switches – domed metal contacts mounted directly on the circuit board. These are cheap to produce, but they're much less responsive and durable than the microswitches in the Konix or the leaf-spring switches in the Wico, Bob's other fave joystick.

Is the Konix as durable as we say? Well, since the review we've subjected it to six months of real hammering and it's still going strong. I'd call that durable, wouldn't you?

No colour ghosts on modulated TV

My son purchased Elite's latest game, *Ghosts and Goblins*, on cassette for his Amstrad 664, which operates with a colour television and modulator instead of an Amstrad monitor.

He found that the loading picture came up in colour. However, once he started to play the game it changed to black-and-white. We returned the game to Elite to ascertain the fault or obtain a refund.

Elite's director B R Wilcox telephoned that the fault lies with our set-up and not his game. The game, he says, is designed for the Amstrad system and not for the computer with a colour TV and modulator.

We pointed out that the cassette case does not so specify, and that other Elite games load without problems. He said the game worked and that it was unfortunate that it did not work for people without colour monitors.

We would like you to warn other Amstrad users who might be considering purchasing the game.

Richard Lord and dejected out-of-pocket son Jason
Felixstowe, Suffolk

You are not the only person complaining on this point – our phone has been ringing too.

With this kind of thing, your best bet is to go back to the shop where you bought the game and ask for a refund.

We spoke to Mr Wilcox at Elite about this problem, and were told that future releases would also be tested on systems using modulator and colour TV, now they are aware of this situation. This problem may apply to other titles too, so anyone using TV via modulator rather than the Amstrad's own monitor would be wise to make this clear to the shop before they buy any game. That way the shop would be obliged to give you your money back if the game turned out not to work properly.

However, anyone with this problem should complain and complain loudly. A green-screen Amstrad system with an auxiliary colour TV, driven by Amstrad's own mudulator, is by no means an unusual or unorthodox system. Software houses should ensure their titles run on such a system, or make clear on the packaging that a title does not work with TV modulator.



Strange commands

Never having written to a magazine before I now find myself writing for the second time in a few days.

Concerning the "Graphics Bonanza" on pages 92 & 93 of the May 'Amstrad Action', I have typed in all three programs and all work very nicely.

However I wonder if you or James Cadwallader could explain one or two points on the Rotating Sphere program:-

a. Line 335. "secondnum = ysize" appears to serve no purpose whatsoever.

b. Lines 370 and 510. As line 370 sets "first" to Z it would appear that the program will always GOSUB 1840 and never GOSUB 1930. Hence lines 1930-1995 will never be used. In line 370, What purpose does "last = 15" serve as "last" doesn't appear anywhere else?

Major J H A Bryden MBE
Edinburgh

We edited that listing for length. The commands you mention are left over from the earlier version, and should really have been excised by us.

Serialised ROM

I own a CPC 6128 and wish to fit Arnor's *Utopia* on ROM. As I do not own a ROM board would it be possible to fit this ROM into the Amstrad RS232 interface? If this is possible, how would I go about fitting the ROM and how would I call it up for use?

I enjoy reading your first-class magazine and find your recent CP/M tutorial of great help. Keep up the tutorial-type help and the first-class reviews of both soft- and hardware.

C Madrell
Cleveland

I don't know if Utopia *demands some particular ROM number – check the instructions on this – but assuming it doesn't you should have no problems fitting it in place of your RS232 ROM. Whether it's a good idea or not is another matter: for one thing, you'll have to swap the ROMs over every time you want to use the interface.*

Tape-disk trauma

Is it possible to get *Starion*, *Yie Ar Kung Fu* or *They Sold a Million* onto disk? I have been trying for ages, having many a sleepless night, trying to crack it. Also I bought *Hunchback II* for my 664, and it just refuses to work. I am sure that you brill mag magicians can think of something.

Anyway I think that the mag is great (grovel, grovel) but I think a little bit more of the Pilg wouldn't go amiss. Also is it strange that my Quickshot II joystick is able to crash my computer?

D Wreford
Eversley, Hampshire

Bad news: Hunchback II *is plain incompatible with the 664 – it is an old game, probably still under development when the 664 was released, and software houses weren't at that time aware of compatibility problems. The packaging states that it runs on the CPC 464.*

As for the Quickshot II, just don't use the auto-fire button and you won't have trouble.

Joy from Arnor

I saw Mr Webb's letter (August) complaining that *Cyrus II Chess* crashes on his 6128 with *Protext* on ROM. I had the same problem with my 464, notably with *Battle of Britain*, which locks up at the exciting bits, and *Arnhem*, where the character set is corrupted.

The last thing Mr Webb should do is keep removing and refitting the *Protext* board because eventually the connectors will give up. I rang Arnor and they sent me a little routine which disables all ROMs except the disk drive on the 464.

I have got both a Quickshot II and a Quickshot II Plus joystick, and find that both sticks work OK with some programs provided the autofire is turned off, but that with other programs the stick is locked on fire permanently whatever you do. This is particularly unfortunate in *Elite* because space stations resent my feeble attempts at docking enough without my stuck stick trying to shoot chunks off them as well. Any suggestions?

G J Edwards
Leeds

Arnor's helpful routines for the various other Amstrad models were published in the September issue, page 11.

I've never had any problems using a Quickshot II with Elite *myself. It could be a fault in the autofire switch on your stick, but that still wouldn't explain why you have the problem with just certain games. I can only suggest that you buy a better joystick, or play on keys instead.*


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GREMLIN

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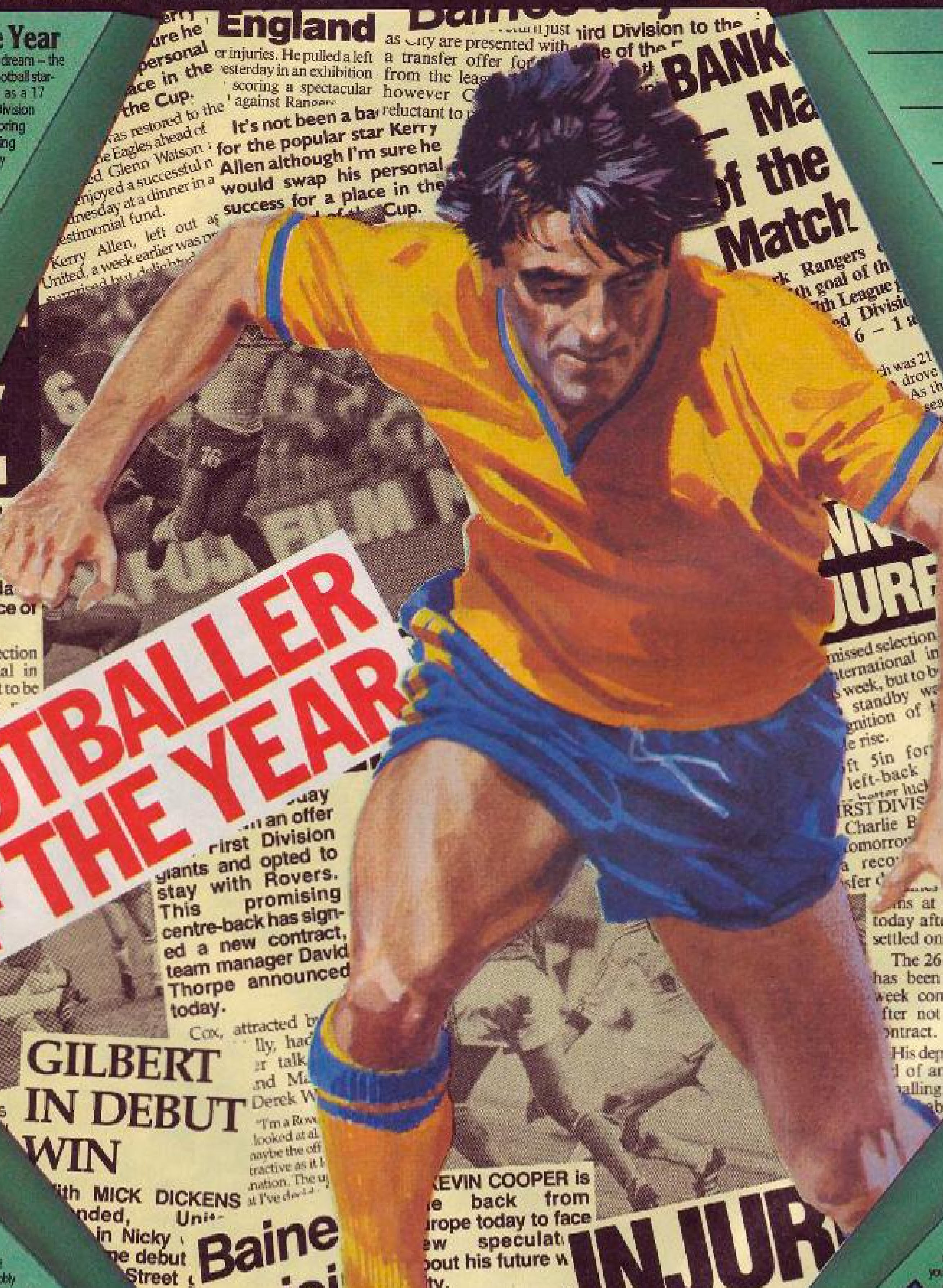
Future Knight & Trailblazer are not available on BBC/Electron.

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MSX Spectrum 48K
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Amstrad, BBC/Electron
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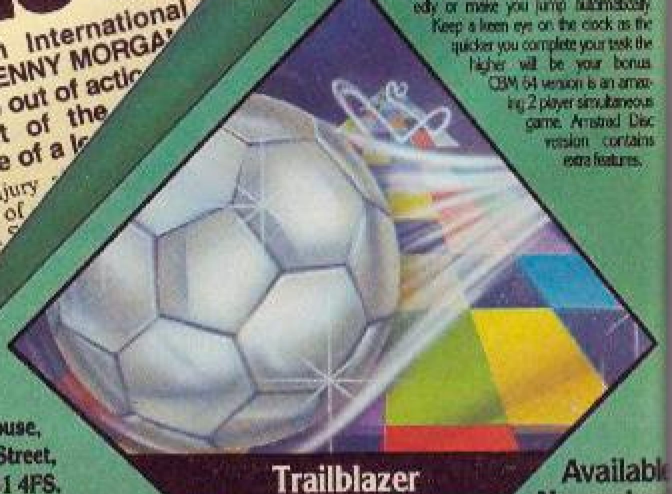
Future Knight
Arise Sir Randolph to take up the challenge of death that has befallen the fair maid Amelia, held in the evil clutches of Spelbott the Terrible. Acting upon an inter-dimensional distress signal from the galactic cruiser SS Rustbucket, don your Omnibot Mark IV attack suit and venture forth in pursuit of your beloved's captors. Defend yourself nobly against the Berzerka Security droids. Fight your way through 20 gruelling levels onto the planet's surface into Spelbott's castle where the fate of Amelia lies with the outcome of your mortal combat with the awesome Henchodroid. Is there any gallantry and bravery left in this modern day universe?



Available November!

Future Knight

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Thunder into the unknown at a breakneck speed, pushing your reflexes to their limits in this definitely exhilarating journey that's not one for the fainthearted. Roll left, roll right avoiding the endless chasms of doom that lay in and around the squares of mystery. Squares that will sometimes slow your progress, on occasion with fatal consequences and sometimes speed up unexpectedly or make you jump automatically. Keep a keen eye on the clock as the quicker you complete your task the higher will be your bonus. CBM 64 version is an amazing 2 player simultaneous game. Amstrad Disc version contains extra features.



Trailblazer

Available November!

Gremlin Graphics Software Ltd., Alpha House, 10 Carver Street, Sheffield S1 4FS. Tel: (0742) 753423



Reveal yourselves!

Why don't you give us more info on yourselves and what you get up to in those crazy Somerton offices. A certain CBM 64 mag had no problem in revealing themselves on to the public. Was Bob Wade one of them? (poor fellow, he has seen the error of his ways!) Give us a page of gossip or funny things which happened around your offices in the past month. Call it the 'BACK PAGE' or 'MATT'S EYE'. (Do you like being called Matt your lordship?)

I agree with most of your reviews but with *Hypersports* I disagree. *Hypersports* is slow, graphically dull and unplayable. I think the mighty BW was being a little too generous (88%). Your layout is a little haphazard but there is good editorial to read. Please have more software reviewers, and where did the third opinion go? Voice of the People is a great idea although people who buy games always think they have got a good game. This tends to make their statements a little unfair.

Richard (Da Vinci of the North) Spence
Co Down, N Ireland

So you want to know what goes on down in the Old Barn? Much keyboard bashing and joystick thrashing mostly – with the odd bit of craziness in between...

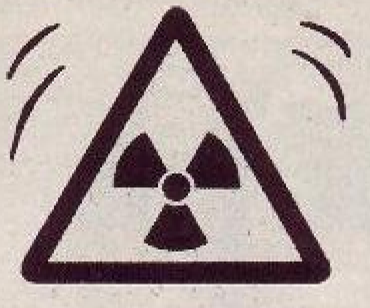
Read the review

I recently bought the game *Radzone* by Mastertronic for my 464. The game is great, in fact it's my best game, but while playing it I noticed more than a passing resemblance to *The Scout Steps Out* sold by Amsoft. I have not actually played *Scout* but I have numerous reviews and screenshots of the game.

If both games are written by the same person is he conning the public and Amsoft and Mastertronic? If one is a copy of the other, is this illegal? Is it all a big coincidence? Am I completely wrong about the whole thing?

Gavin Tyte
High Wycombe, Bucks

Read our review of Radzone *(July). We said it's by the same authors, in a similar style, but a budget game: £2 instead of £9. So, no, it isn't a rip-off.*



Unimpressed

Okay, okay, so I gather your reviewer did not like *Nuclear Heist* – but what a review.

So it was not *Who Dares Wins II* quality, but it was one of the few Amstrad games which is fast.

You said my game features 'flickering' sprites. They are fast, but they do not flicker. Maybe it's your eyes. You were so busy mocking my game you swapped the pictures for *Ball Blazer* and *Monty on the Run*.

Thank you for giving me just over half marks for the sound on this game. I also did the sound for *Killapede* which attracted a high percentage for the sonics and a better review than mine.

Despite all this you produce an excellent magazine. In future could you print the author's name in a review?

Jon Paul Eldridge
Trowbridge, Wilts

If I remember correctly, the graphics and sound weren't the main problem with Nuclear Heist.

On your second point, printing the author's name is certainly a good idea – the trouble is often actually finding out who the main author of the game was. As often as not it is a team effort involving a host of people on various aspects of the program and the concept. Thanks for the idea though.



Groups & penpals

We think it would be a good idea if you had a 'club' page in your magazine (well, maybe not a page, but a section). We are a sort of club, not the type that meets anywhere, but we send out monthly newsletters to our members. The newsletter is full of reviews, news, quizzes, competitions, etc. We only launched a couple of months ago, but we do have two members!

Our club is called Cotac (Club of Teenage Amstrad Computerists) and our newsletter, *Contact from Cotac* is aimed at the 12-to-16 age group. To join we ask £1.25, for 12 monthly newsletters plus free posters, demo programs, blank cassettes and t-shirts (if available).

Conrad Hart, Gregory Hart, Selena King
48 Dover Road, room 14
Wanstead, London E12 5EA

OK, here goes with a summary of similar letters received this month:

Six issues of Amstrad Computing Newsletter *have been published (at £1) since September 1985, with no adverts other than companies offering discounts. Subscribers can also join a round-robin on tape (free) or disk (50p) and a public-domain software library (£1.25 for copying and postage). Contact* **Chris Bryant, 11 Havenview Road, Seaton, Devon, EX12 2PF.**

In Norfolk, 'ordinary people from all walks of life with keyboards attached to their fingers' can send a self-addressed stamped envelope to **Amstrad User Group (Norfolk), 38 Goose Lane, Sutton, Stalham, Norfolk.**

And a body has been formed to help all user groups in Britain and Europe 'by acting as a pressure group, providing a single voice for Amstrad users everywhere'. It also administers a discount-card scheme and produces a monthly newsletter by and for affiliated clubs. **Amstrad Groups Federation, 4 Sutton Road, Gorton, Manchester, M18 7PN.**

The following individuals would like pen-pals. We'd suggest sending an s.a.e. if you write.

- *Simon Dennis, 1 Croft Rise, Menston, nr Ilkley, W. Yorks, LS29 6LU*
- *Stephen Pope, 14 Fallowfield Ave, Hall Green, Birmingham, B28 0NL (any club in the Birmingham area?)*
- *David Muldoon, 36 Mansfield Crescent, Chapelton, nr Strathaven, Lanarkshire, ML10 6SB*
- *Mark Cottam, 45 Station Road, Penketh, Warrington, Cheshire, WA5 2PH*
- *Dan Roberts, 38 Felton Lea, Sidcup, Kent, DA14 6BA (has 464 with disk)*
- *Robert Rowbotham, 4 Parkgate Way, Shaw, Oldham, OL2 8JH (wants Oldham-area friends with 464)*
- *Robert Shepherd, 4 Trusthorpe Road, Sutton-on-Sea, Lincs, LN12 2LT (age 16, owns 464)*
- *Sérgio Vasques, Rua General Silva Freire 151-4D, 1800 Lisbon, Portugal (just bought a 6128).*

AMSCENE

Gargoyle's new look

Gargoyle Games, famous for excellent arcade adventures, are moving into arcade games with the launch of a new label called Faster Than Light. The first three games on FTL are *Light Force*, *Shockway Rider* and *Samurai Dawn*, which all feature a new technique they call 'Lasermation'. Don't know what the games look or play like yet – but I can't wait.



Dix ditties on disque

Bored with *Impossible Mission*? Then get Arnold playing *Mission Impossible* instead – or the theme tune, at any rate. Vanguard Leisure, the people behind the *Maestro* amplifier featured in this month's music special, have just produced a collection of ten digitised tunes for your CPC and *MI* is one of them.

Though originally intended to promote the *Maestro*, these pieces can also be played (rather less impressively) through Arnold's built-in speaker. They're collectively entitled *Easy Listening*, and include not only TV and film themes but also works from such noted tunesters as Queen, Bach and Abba.

You can get the tunes on two separate cassettes of five ditties each, or the full ten on one disk. The cassettes cost £6.50 each while the disk will set you back £14.95.

Page the Oracle with a CPC-Fax

If you wanted your Arnold to pick up teletext – Ceefax and Oracle, in other words – then up until now you'd have needed to shell out £145 for Volex's TTX teletext adaptor, as reviewed in the April issue of *AA*. Hampshire firm Microtext have just changed all that with a new adaptor (no snappy name, just the Microtext teletext adaptor) priced at a meagre £69.95.

There is a slight snag, though. To keep the cost of the unit down, Microtext have left out the tuning circuits a teletext adaptor normally needs. Instead their adaptor uses a pre-processed signal from a video-recorder. This is clever stuff and very cost-efficient if you've got a video, but no use to you at all if you haven't (unless you're lucky enough to have a TV with a 'Video Out' socket, that is).

Got all that? Those of you with a video (or well-endowed telly) can reach Microtext on (0705) 595694. If you're videoless on the other hand, there's always Volex on (061) 736 5822.

Football's back!

Gremlin's latest project is called *Footballer of the Year*. It puts you in the role of a professional footballer trying to make his way into the big time. You apparently start the game aged 17, playing for a fourth-division team, with £500 in cash, 10 goal cards (whatever they are) and an awful lot of ambition. Among the game's features, say Gremlin, are transfers, career record cards, league, EUFA, FA and Milk Cup games and the footballer-of-the-year award ceremony. No price available yet – but with Bob doing the reviews a football game will be hard to miss.



'All go' for the CPC despite summer lull

Over the last month we've been hearing some ugly rumours about falling sales of CPC games. Some software houses say they've been very disappointed with the Amstrad market over the summer and put the blame on a shortage of CPCs.

Summer is always a slack time for software houses, with the longer days and better weather luring people away from their computers. But the houses concerned think there's more to it. The problem, they claim, is that there aren't enough new CPCs available so that the market isn't growing as it should.

There's even been speculation that Amstrad have actually stopped production of CPCs altogether and are phasing the range out. One major house told *AA* they thought Amstrad might be starving the market of CPCs prior to flooding it with Spectrums. So is the CPC games market in trouble?

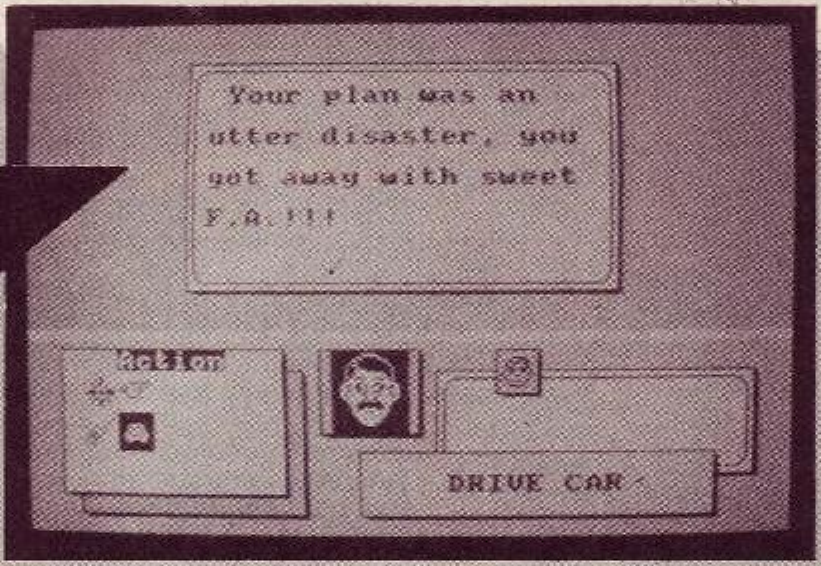
Mastertronic's Alan Sharom thinks not. 'It's all-systems-go on Amstrad games,' he told us. 'We've got two new CPC titles coming out next month, and loads more in the course of conversion.'

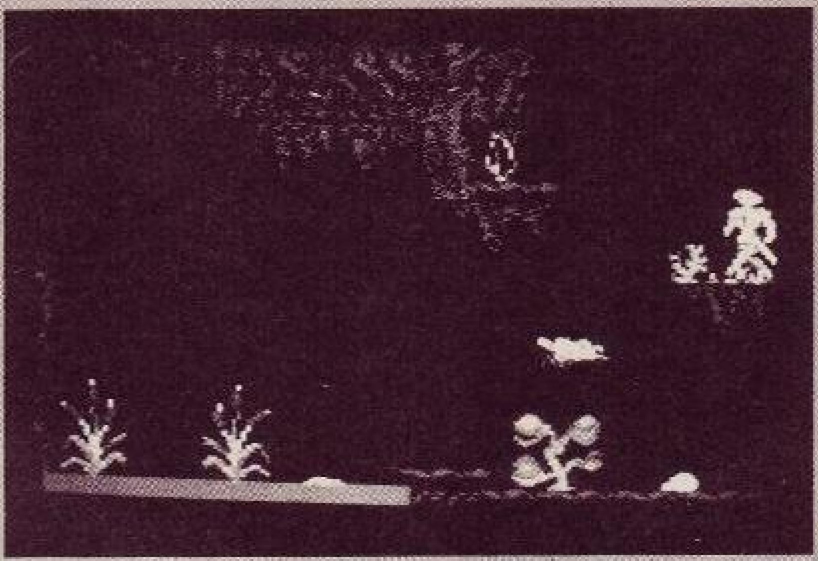
Herbert Wright of Firebird is similarly confident: 'We're very pleased with the way our budget games have done, and optimistic about the new full-price titles we're bringing out.' Activision also have a large number of new Amstrad titles coming out between now and Christmas, and feel confident that CPC games will continue to sell well.

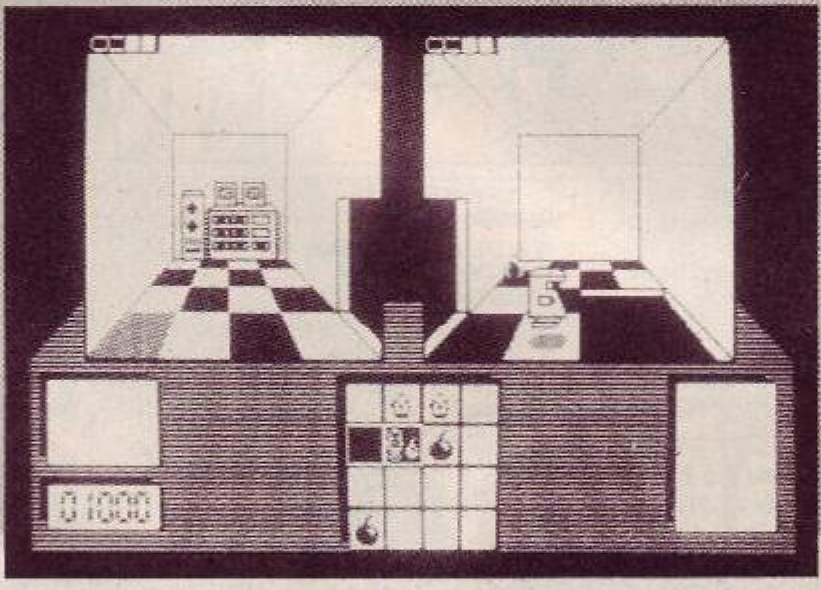
As for the machines themselves being in short supply, a straw poll of chain stores across the country found that they all had 6128s in stock, and all but one were confident of getting further stocks if they were to sell out.

It certainly doesn't look as if Amstrad have stopped producing CPCs. Amstrad themselves said 'Amstrad-branded games machines' (CPCs, that is) 'continue to sell well, and we have no current plans to interrupt that success.' That, we must hope, settles that – but those rumours did have us worried for a moment there.

All go at Ariolasoft







Until now Ariolasoft hasn't been too prominent on the Amstrad scene, but that looks set to change with two new labels and a host of new games for the autumn. The two new labels are Reaktor, intended for arcade or action games, and 39 Steps, intended for strategy or adventure titles. First out on 39 Steps is *They Stole a Million*. Further up the pipeline are *Tujad*, *Camelot Warriors* and *Sepulcri*.

The first title out on the Reaktor label is called *The Deactivators* and we've already seen a pre-production copy of it. The game is set in a building equipped with very high security systems – which unfortunately can't cope with a good old-fashioned bomb. Even more unfortunately a bunch of terrorists have discovered the weakness and scattered bombs everywhere, reprogrammed the robot guards to kill on sight and pulled crucial circuit boards out of the computer.

There are five levels to the game, each representing an area of the building, and of course they get progressively harder. Each level is split into rooms, two of which are viewed at a time in the main screen window. Below this is a panel showing the map of the level, an icon menu and any object being carried.

The task is to control a group of droids in the building to get rid of all the bombs. They have to throw them out of an exit door in one of the rooms. There are complications: the robot guards kill on contact, circuit boards have to be placed in the computer to allow access to some bombs, and you have to throw things between rooms and between droids to get them out.

Later levels get bigger and more complicated and introduce nasty surprises like rooms turned upside-down and sideways. All this combined with a constant panic against the clock makes a very original and addictive game. Look for a full review next month.

They Stole a Million also, looks like a very original game to test your wits. Your task is to choose a suitable place to burgle, hand-pick your team of underworld experts, plan the blag with the help of the building blueprints and then actually carry it out. The pre-production version we've seen shows tremendous promise with nice use of window menus, plenty of humour and lots of thought and planning required.

Tujad, *Camelot Warriors* and *Sepulcri* were also still being worked on when they were shown to us, but all look to have something different to offer. The most intriguing, *Camelot Warriors*, is being produced by Spanish authors. It puts you in a dream sequence where reality and fantasy mix in a weird combination; you have to get out of the dream by finding the objects from the real world.

All the games will cost £8.95 on cassette and £14.95 on disk. The release dates aren't definite yet, but keep your eyes peeled for the reviews.

2 new Amstrad mags win Raves from AA

This month *Amstrad Action* can bring you exclusive news of two new Amstrad-based magazines: *8000 Plus* caters for PCW8256 and 8512 owners, and *PC Plus* supports the new Amstrad PC1512 IBM-compatible.

We didn't have to go very far to find out about them, because they're being produced right here in the Old Barn.

The first issue of *8000 Plus* will be on sale at the Personal Computer World Show on September 3rd at Olympia in London, and goes into newsagents on the 11th. It includes a large guide for software buyers, which reviews over 60 packages from *Brainstorm* to *Batman*, plus tons of info to help you get the best out of CP/M and *Locoscript*.

Inside *8000 Plus* you'll find the first issue of *PC Plus*, a new friendly user's guide for the Amstrad PC1512, though most of the contents will be useful to any PC-compatible owner. It will reflect the market changes that this budget compatible will bring – with plenty of reviews of new low-cost software and lots of hints and tips for the first-time user.

PC-PLUS will go independent of *8000 Plus* in the very near future. And both magazines, like *Amstrad Action*, are independent of Amstrad. The first issue of *8000 Plus*, with *PC Plus* free inside it, will cost £1.25 – not bad for two hot new magazines.

Mastertronic offers its first hardware

A new joystick is about to hit the market, the first bit of hardware to come from Mastertronic, who have won several *AA* raves for budget software. Called the Magnum, it is fully compatible with the Amstrad. It will be in the shops the end of September priced at £12.50.

The joystick is based on electronic microswitches rather than conventional leaf-spring mechanical switches, giving instant response, Mastertronic claim. It has a superlight trigger and a full six feet of cable. Advanced ergonomic design should preserve both either left- or right-handers from fatigue.



No, this is a wristwatch ...

Martech mania

Martech is another software house with big plans for the autumn. First up on the list is *W.A.R.*, which the press release says is a 'very fast, smooth-scrolling, addictive shoot-em-up, with a clever underlying strategy'. We'll have to wait for the review copy to find out for ourselves. It will cost £8.95 on cassette and £12.95 on disk.

Uchi-Mata is yet another martial-arts game, but this time based on judo. According to Martech it has 'some of the best animation sequences ever seen on a home microcomputer', has one- or two-player options and has the powerful support of Brian Jacks as technical consultant. Pricetag will be £9.95 on cassette and £13.95 on disk.

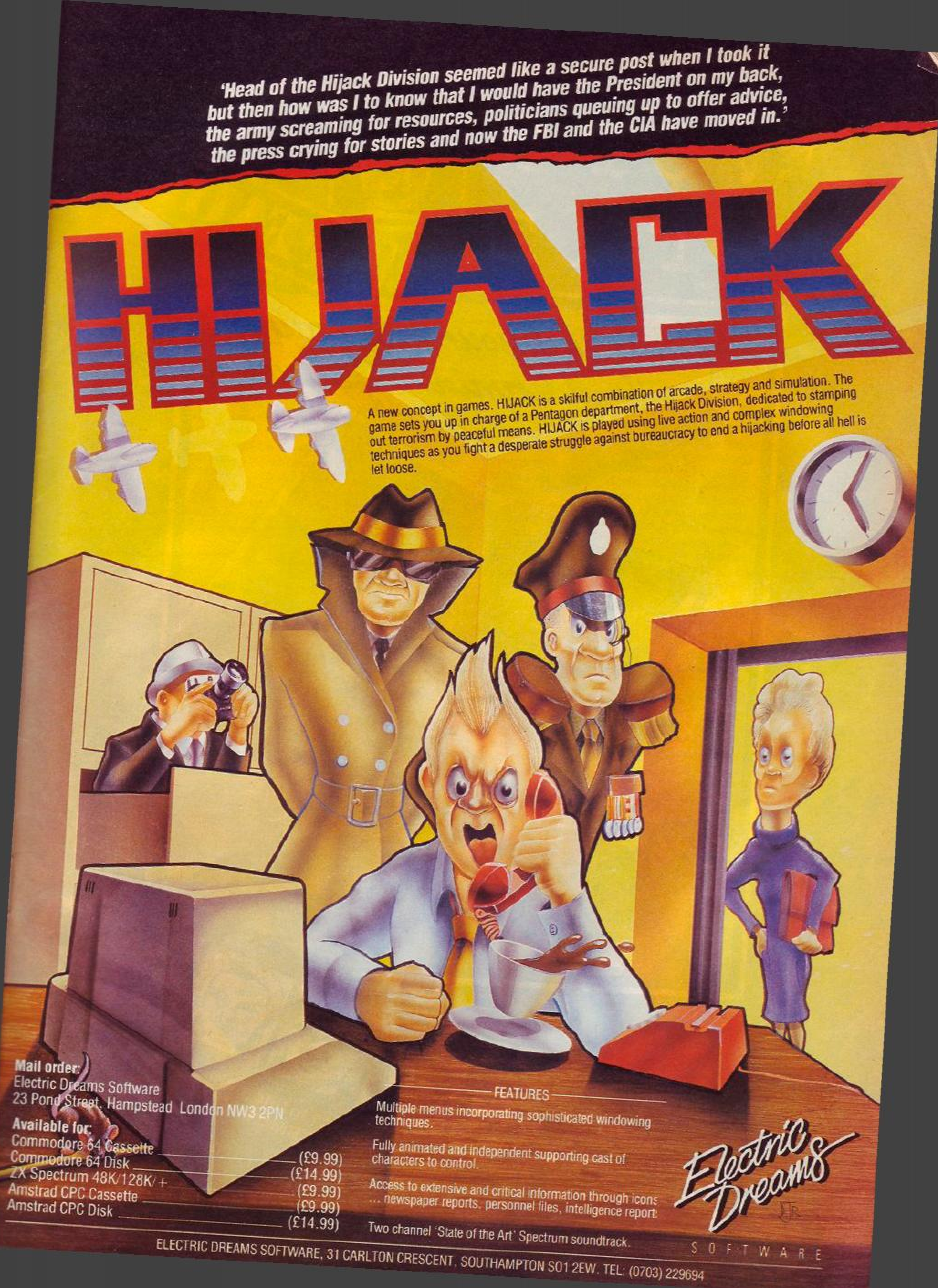
Cosmic Shock Absorber is another interesting project, described as a 'fast'n'furious 3D shoot-em-up, down, left, right and any other way possible.' Hmmm? It stars a 'fourth-division superhero' battling to save the universe. You'll be able to join him for £8.95 on cassette and £13.95 on disc.

A little further ahead, *Catch 23* will feature 'total environment representation' and Ronald "Bedtime for Bonzo" Reagan's Star Wars program will star in *SDI*. Two frightening possibilities, to say the least.

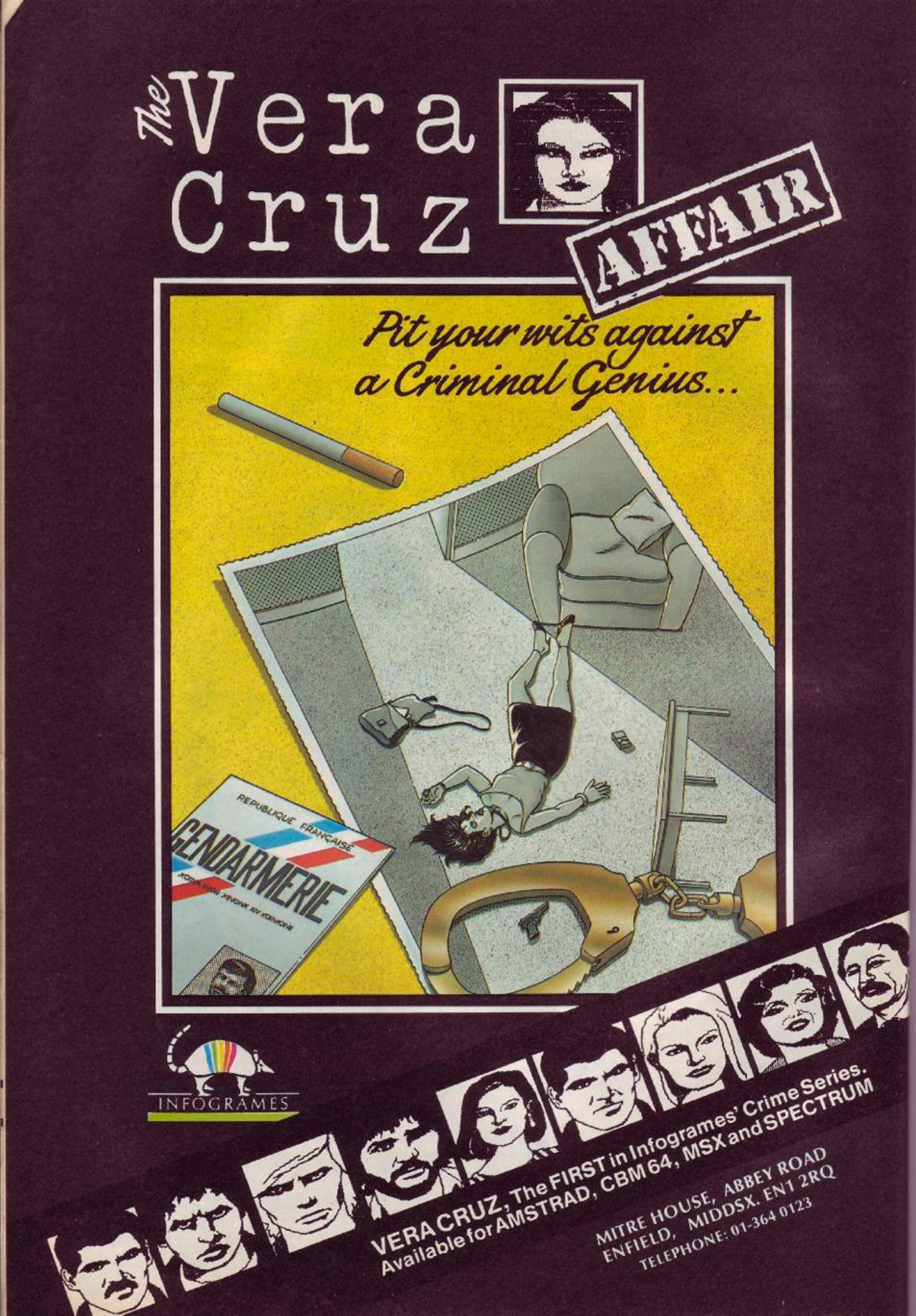
Doom Plus

The disk version of *Doors of Doom* has arrived and – surprise, surprise – it's called *Doors of Doom +*. It has three delightful scenery backgrounds, including the one from the cassette. One of the three is picked randomly when you start each new game, so you'll quickly get to know them all. The excellent screen-design facility is there also. Although the gameplay is uncomplicated the superb graphics and compulsiveness make this a worthy addition to disk software. It costs £13.95 from Amsoft.

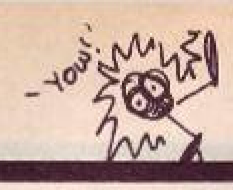




'Head of the Hijack Division seemed like a secure post when I took it but then how was I to know that I would have the President on my back, the army screaming for resources, politicians queuing up to offer advice, the press crying for stories and now the FBI and the CIA have moved in.'
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WIRED FOR SOUND

Computer musician MARK JENKINS investigates the musical possibilities of Arnold, and introduces this seven-page Music Special...

Ardent game players will already have some idea of the musical possibilities of Arnold. Games such as *Monty on the Run*, *Knight Games*, *Ghosts'n'Goblins* and many others make good use of Arnold's sound chips and indicate that, with the right software, Arnold could be a musician in his own right.

Later on we will look at how the Midi system allows you to control professional synthesisers with your micro, but don't forget that Arnold's sound chip is a small synthesiser in its own right, and many of the music-oriented packages available need nothing more than software and an ear for a tune to let you make music.

Back in July Andy Wilton looked at two products, *Minstrel* from Kuna Computers (£14.95 cassette, £19.95 disk) and *Music Box* from The Electric Studio (£9.95 cassette, £16.95 disk). His conclusion was that *Music Box* was well laid out but 'looks puny and overpriced compared to Rainbird's *Music System*'. Later in this Music Special Andy looks at the £29.95 disk-only *Advanced Music System*, which can be upgraded from the basic *Music System* for £14 (from cassette) or £10 (from disk).

Much more basic is *Music Master* from Vanguard Leisure, licensed from Datasync. Vanguard are the people who launched the *Maestro*: a hardware package offering a small stereo amplifier, headphones, two 3-inch speakers and a music demo cassette which takes full advantage of the Amstrad's stereo sound output. Both packages are covered in depth later.

Another package which will provide endless hours of fun is *Amdrum*, available through Boots and manufactured by Cheetah Marketing. *Amdrum* is the only one of these packages to go beyond the comparatively limited potential of the Amstrad's own sound chips. Again, see the full review in the next few pages.

THE DEVELOPMENT OF MIDI

Why have microcomputers become so popular among professional musicians? Simply because in the last few years musical instruments have become more and more like computers anyway – so using a micro such as an Amstrad is no longer an intimidating prospect for musicians as diverse as The Human League, Blancmange, Marillion and Dire Straits. It was inevitable that professional synthesisers eventually would be linked up to micros.

We're talking about the latest stage of the synthesiser revolution, which started around 1968 when Robert Moog developed the voltage-controlled oscillator, and which took a massive leap in the late 1970s with the addition of microprocessor control.

The early synthesisers – played by pioneers such as Walter Carlos and Keith Emerson – had two main problems: only one note could be played at a time, and each new sound involved setting scores of knobs in positions which could not easily be reproduced. Later microprocessor-controlled synths such as the Sequential Circuits Prophet 5 and the Roland Jupiter 8 were fully polyphonic (capable of remembering large numbers of sounds defined by the user), so only a few problems remained.

Even in the '70s, synthesisers from different manufacturers were still incompatible with each other. So if you wanted to experiment a little – controlling many instruments from remote keyboards, note recorders (otherwise known as 'sequencers') or other instruments – you were out of luck. But when Dave Scott of Sequential Circuits experienced problems in getting his Polysequencer design to control the Prophet 5 synth, he came up with a proposal for a Universal Synthesiser Interface (USI).

Taking the USI proposals to Japanese manufacturers such as Roland and Yamaha resulted in a much expanded format known as MIDI, the Musical Instrument Digital Interface, which is now almost universally used on home computer interfaces, synthesisers, drum machines, sequencers and even guitars.

Midi is a binary language similar to RS232 and other computer standards. It uses a serial interface which manifests itself as a five-pin DIN plug of which three pins are used for earth, live and return loop. Midi In or Out sockets (or both) will be found on all instruments, and a Midi Through socket (simply passing on the input signal) is an option. Although some micros now have built-in Midi, most need a small interface to convert their cartridge or user-port transmissions to the Midi hardware standard.

The 128 note values available through Midi are made to correspond to a range of ten and a half octaves on a piano keyboard, which is more than enough for conventional composition. You can also send vibrato, wow, pitch-bend and other modulation levels through Midi. Codes are transmitted at regular intervals to synchronise drum machines, sequencers and other units which play notes at a set tempo, so your micro can easily lock on to drum sounds or to other music computers.

WHAT MIDI CAN DO

The most obvious thing Midi can do is store and replay notes entered from a synthesiser. This makes it possible to compose very lengthy pieces and play them back on several instruments simultaneously using suitable compositional software, such as EMR's *Miditrack Performer*, reviewed later. With many keyboards now capable of 'sampling' or recording real sounds as well as synthesising new ones, the days of the conventional studio using multi-track tape machines could be numbered.

Micros can also store sounds defined on synths but transferred via Midi to the micro's disk drive. And they can help to create new sounds by giving a colourful graphic display of all a synth's functions. Some software packages, such as *DX-Droid* for the Yamaha DX7 synth (not available on Arnold, I'm afraid!), will even create new sounds for you at random!

Back at a more reasonable level, experimenting with Midi requires an Arnold, a Midi interface and suitable software – and of course a Midi-standard music keyboard. One of the best to start off with is Casio's CZ-101, which for around £240 offers eight-note chords or four different single notes played simultaneously. It comes with miniature keys but is an ideal beginners' instrument.

Nowadays you can pay around £800 for a Midi sequencer such as Roland's MC500, but a micro such as the Amstrad can perform all the same functions with a much more informative display for just the cost of a Midi interface and software. The only difference is... we have yet to see an Amstrad being used on stage!

MIDITRACK PERFORMER

EMR (0702) 335747, £129.85 cass & disk

If you wish to use the Midi system on your CPC machine, EMR's *Miditrack Performer* is really the only option at the moment. This is a software package that comes with a Midi interface which lets you control synths such as the Casio CZ-101. The Casio is a very powerful compositional tool, and *Peformer* takes full advantage of all the expression available via the Midi interface.

The one package contains both cassette and disk-based versions, so running on any CPC model. It also comes with the interface itself, which plugs into Arnold's expansion port. This box contains the Midi sockets, and can also control the cheaper Korg or Roland non-Midi drum machines, which you can pick up second-hand for around £130. You will be able to use *Performer* only to synchronise these, but they could function as a cheap second instrument to your main Midi keyboard.

There's only one main display from which the whole package is controlled. This screen is fairly packed, but having it all there in front of you would certainly help in a live performance. On the right of the screen are the Save, Load, Delete, Filename, Clear, Text, Arrange and Time Correct functions. The last of these refers to *Performer's* ability to clean up a sloppy performance on the synth keyboard to a variable degree.

In the centre of the display are Metronome, Count-In (so you know when recording is about to start), Clock, Tempo, Number of Plays, Time Signature and Start Bar (so you can begin recording at any bar of a composition). Record, Play and other important functions are selected using a command window at the bottom of the screen, and you can adjust the tempo using the cursor keys or a joystick.

The functions are first selected with the cursor keys, activated with the spacebar and then altered in value using the cursor keys again. This slows you up a little – it would have been nice to have used the keyboard to enter Tempo value, for example. Some of the icons are a little obscure too: a little man on a podium standing for Tempo, a picture of a metronome for Clock. A little confusing, but on the whole *Performer* is pretty easy to use.

On the left of the display are the compositional functions to select which of the eight available tracks you're dealing with; to play or mute each track; to assign a Midi channel; to loop tracks or allow them to play just once; to filter out velocity recording (which can waste a lot of memory); to transpose the pitch of a track; and to arrange a chain of up to 64 patterns for compositions around 20 minutes long.

Total capacity of the package is around 8,000 notes, though the actual capacity depends on the amount of information you require with each note. It will deal with eight or more polyphonic synthesisers and drum machines. *Performer* is limited to eight tracks in theory, instead of the full 16 channels catered for by the Midi standard. This is presumably because of the limitations imposed by the speed of the Amstrad's processor and memory, but the package does allow you to merge two or more tracks into one, so your composition can contain up to 29 separate tracks, though you would not be able to edit all of them separately.

A more serious problem was that the review package would hang up if you tried to load a file that didn't exist. This could be frustrating if, for example, you had created a file called SONG1, and tried to call up SONG 1 by mistake. It simply means that you have to be careful when calling up files!

But will it ever replace a real recording studio? That depends on whether you're willing to buy a mixer and effects units to deal with all the synthesisers, and whether you're prepared to go without vocals, guitar and other conventional instruments. The best solution is probably to buy a cheap four-track cassette machine and use one track for a click to synchronise *Performer*, three for vocals, guitars etc, and have all the drums and synths running 'live' onto your master tape. ■





GOOD NEWS

- ► Relatively easy to use.
- ► Complete control over as many synths as you can afford.
- ► Good value compared to Midi systems for other micros.

BAD NEWS

- ► Error-trapping not perfect.
- ► Screen display obscure to the beginner.

Maestro

Vanguard Leisure (0772) 617665, all CPCs, £39.95

The *Maestro* is designed to improve the sound quality of your 464, 664 or 6128, by taking the stereo output from Arnold and amplifying it into two good-quality speakers or a pair of personal headphones.

Maestro comes well-packed in an expanded polystyrene pack, with a full-colour sleeve giving installation details. It consists of a small grey amplifier box, two metal-grilled speakers, a pair of headphones, connecting leads and a demonstration software cassette.

The amplifier has independent volume controls for each channel and a push switch to control speaker or headphone output. Leads are attached to the back of the box for power input and output, and signal input from the micro. There are also two DIN-type speaker sockets which take the plugs from the speakers. The amplifier is well-made, only being let down by the rather flimsy mounting of the volume controls – the knobs wobble when you turn them.

The speakers themselves are solidly mounted in plastic cases, each provided with a metal bracket which acts as a stand. The speakers can be tilted in these cradles to provide a degree of directional adjustment. The drive units are dual-cone, which means that the bass and treble frequencies are reproduced by different parts of the same speaker. Not quite as good as having separate speakers for each range, but better than the single-cone type. Overall they are very similar to the type of speaker provided with in-car stereo systems.

The headphones, which are like those supplied with personal stereo cassette players, are comfortable and very light to wear. They plug into the front of the amplifier box with a short lead. The length of this lead and the input lead from the Amstrad restricts where you can put the amplifier so that it's only really possible to put it close to the micro's case.

Positioning of the speakers is quite important, as they shouldn't be too far apart if you want a good stereo 'image'. Don't put them too close to the monitor or TV, though, as the strong magnets can distort the screen image. For the same reason, it's not a good idea to put them too close to a disk or disk drive. The speakers are supplied with screws to attach their brackets to the wall, and this is probably a good way to mount them.

The quality of sound that Amstrad micros can produce is very good, and this is well reflected in the standard of output from the *Maestro*. The sound is clear and clean, with little distortion. While not up to hi-fi standards it is subjectively very good, and makes the old CPC sound like a different machine. The demo cassette provides a couple of good examples, in stereo. The Amstrad's stereo output is divided into three channels, one for left, one for right and the third split halfway between the two, so appearing in the centre.

I tried several cassettes, including *Winter Games* which came out well, and the library of tunes provided with Rainbird's *Music System*. The *Music System* puts the background rhythms on one side, rather than in the centre, which gives a strange effect, but it's still heaps better than the mono output of Arnold on his own.

When you're not playing anything through the *Maestro*, there is a fair amount of background hum. This is more noticeable through the headphones, but under normal circumstances it's not enough to be annoying.

EXCELLENT VALUE

The *Maestro* represents excellent value for money. It's a very attractive peripheral for any Amstrad CPC micro, and as the advertising blurb says, it 'works with ALL add-ons'.

All, that is, except the *Amdrum*. This is rather a special case though, as the *Amdrum* expects to be connected into your hi-fi and is fitted with an RCA phono plug which isn't directly compatible with the stereo jack on the *Maestro*'s input lead. But it shouldn't be hard to cobble together a connecting lead if you want to use this setup. The *Amdrum*'s output is only in mono.

In all other respects, I can thoroughly recommend the *Maestro*. ■



Connecting the *Maestro*

This is fairly straightforward, although you end up with quite a few extra leads sprawling across your desk.

Switch off all power to your micro, and disconnect the power line from the monitor to the keyboard. On the 664 or 6128 this is the five-volt lead going to the micro, rather than the 12-volt coming from it – something not made clear in the instructions. This lead connects to a flying socket from the *Maestro*, and a similar lead from the amplifier plugs into the back of the micro. You're effectively breaking the Amstrad lead in the middle, so the *Maestro* can take its power from it. The *Maestro* doesn't draw much current, so this extra load won't affect your Amstrad.

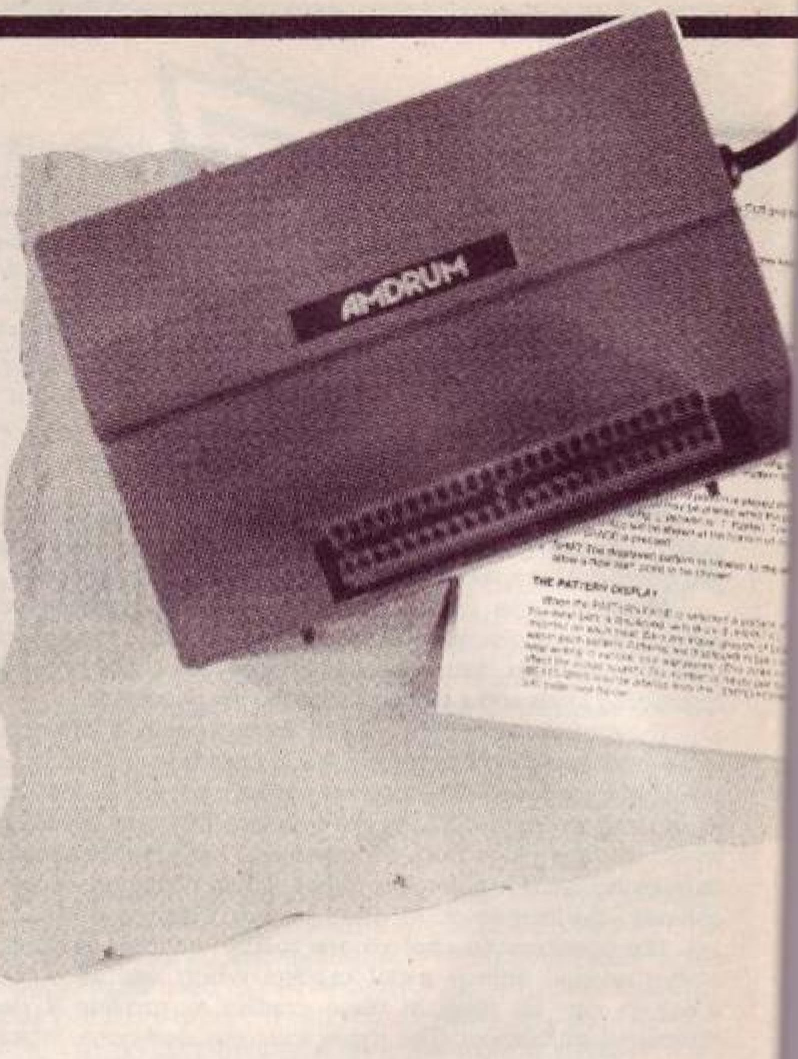
You next plug each of the speakers into the sockets on the back of the amplifier, and the headphones into the socket on the front. A small stereo jack plug connects into the 'stereo' output from the CPC and you're away. No permanent changes have been made to the micro, and you can disconnect the amplifier again whenever you like. The *Maestro* is switched on and off with the power switch on the Amstrad monitor.

GOOD NEWS	BAD NEWS
▶ Improves the sound quality of all Amstrad programs. ▶ Good-quality amplifier, speakers and headphones all included. ▶ Doesn't require extra power supply. ▶ Good value for money.	▶ Certain amount of background noise when not in use.



Amdrum

Cheetah (0222) 777337, £34.95



If you've listened to many modern rock bands you'll know the rhythms generated using electronic drum kits. Until recently these boxes of tricks started at several hundred pounds – only small change for a promising band, but a lot for someone starting out.

Stand-alone drum boxes come with digitally recorded drum sounds which you can program in many varied rhythm patterns to back the most complex of songs. While a micro is ideally suited to handling rhythm patterns, most micro-based drum machines have been hampered by the quality of their sound chips. These aren't capable of reproducing acoustic instruments accurately enough for serious use.

Amdrum gets around this restriction by ignoring the Amstrad's sound chip and using its own circuitry to produce the drum effects. This is accomplished with a small plug-in unit which connects to the expansion bus on the back of a CPC. The mono sound output is taken from a flying lead attached to the side of this unit, and fitted with a phono plug intended for connection to the auxiliary input of a hi-fi amplifier.

This means the *Amdrum* can't be used on its own, since you can't hear its output without a separate amplifier. The *Amdrum* is intended for use with other electronic instruments though, so it's reasonable to expect this kind of equipment to be on hand. But it's a shame that no through connector is provided on the *Amdrum* for connecting other peripherals which use Arnold's expansion bus.

Once linked up, you have to load the *Amdrum* software and a set of drum sound data before you can use the unit. The software and drum sounds are provided on cassette, and instructions are provided for transferring these to disk.

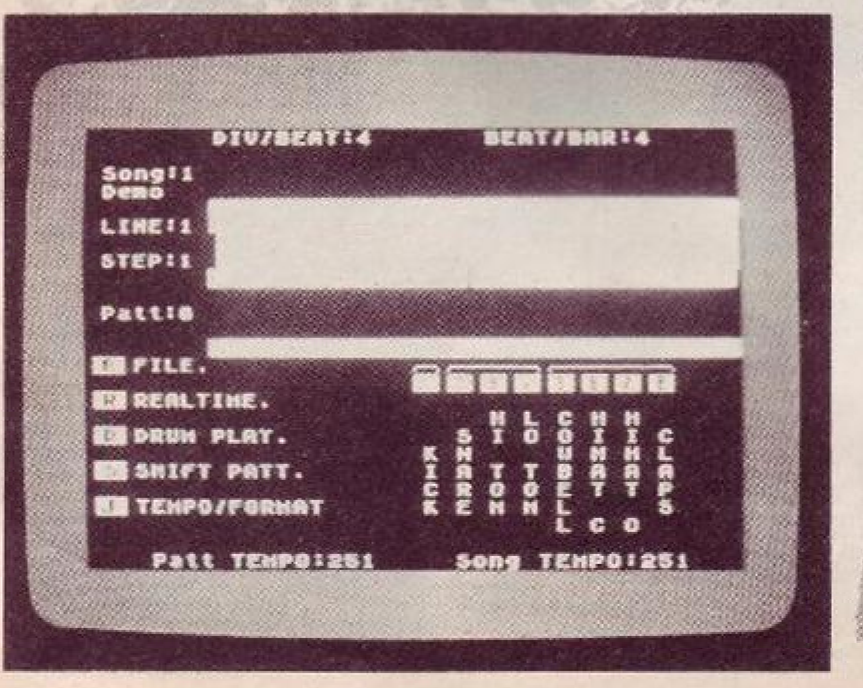
A set of predefined rhythms are also provided, but these are not so easily shifted to disk. Since they're meant to demonstrate the *Amdrum*'s capabilities, it's odd Cheetah should expect you to use them from cassette when everything else might be on disk. This is particularly weird as the *Amdrum* software can't load anything from cassette when it's loaded from disk itself. If you don't manage to transfer the demo rhythms, you have to run the whole shebang from cassette when you use them.

The 'drumkit' provided with the *Amdrum* consists of eight sounds: bass drum, snare, mid and low tomtoms, cowbell, open and closed hihats and claps. Each sound is very close to its acoustic original, although some still have an electronic overtone. This, if anything, adds to the overall effect, giving the whole kit a 'modern' sound.

When you do run the demo rhythms, you can hear that the *Amdrum* is capable of some very complex and professional-sounding patterns. The demo covers rock, reggae, latin, march and several other music styles, and can be used as the basis of complete songs or edited to produce the effects you want. You can also create your own rhythms from scratch, of course.

The software allows you to create new rhythm elements and to link these together. Elements can be repeated in any order you like and loop around to repeat complete sequences, which *Amdrum* refers to as songs. Songs can be saved to disk or cassette, and reloaded later for replay or edit.

Individual rhythm elements can be made up by entering numbers on a chart displayed on screen, or by tapping out a rhythm in real time. In real time you can add or delete any of the drum sounds while listening to the beats already laid down. If you use the display two bars are shown on either side of the current one, which helps line up repeating beats. A sound is added to any beat by pressing its corresponding number key, and you can have up to three sounds on a beat.



Building up to a 'song'

If you're constructing an *Amdrum* rhythm pattern or 'song' from scratch, you first define the number of divisions per beat, which depends on the complexity of the final rhythm.

Amdrum lays down a pattern of single closed hihat beats to act as a reference for your rhythm. They can be deleted later if you don't want them in the finished song.

You add sounds to a pattern by tapping the Control key in real time or by adding sounds to a display of the current pattern. When happy with a pattern it can be to memory and you can defin next.

Once you have defined all the patterns you need you can link th togther to form a complete song. for instance, you have defined pa terns 1, 2, 3, 4 and 5, your complet song pattern might be 1, 2, 3, 1, 3 4, 5, 1, 3. *Amdrum* software can the repeat the complete sequence.



 Is there any tea ...



It's a pity you can't see the cursor following the beats as your rhythm is played back, as this would help debugging. But the facilities that are provided give a lot of sophistication, and are similar to those on a Roland drum machine I used once, which cost over £300.

The *Amdrum* can be used for some quite serious work, but as it doesn't support midi it can't be used for triggering other instruments. It does have a synchronisation feature however, which can lay down the pattern for each sound separately on a multi-track recorder. You can then treat each sound individually and add extra effects such as reverberation.

The manual is well laid out, but a bit brief and very small (A7). I suppose it saves on staples, though!

Supplied for review with the *Amdrum* were two cassettes offering different drum sounds, one electronic and the other Latin-American. Both are good, offering a wide selection of sounds for particular kinds of music.

The drumkit editor, provided on each cassette, allows you to combine sounds from more than one kit, making up new selections. Sounds can be saved backwards, which means they play backwards, although you can't play them through the editor – reverse play is all that can be achieved with individual sounds. It would be handy to be able to treat the sounds digitally through a separate sound editor too.

ON THE BEAT

The *Amdrum* is a very reasonably priced alternative to purpose-made drum boxes. You've got to have an Amstrad micro too of course, so the cost of that should be added in a direct comparison. It's a unit which is really of more interest to someone who does quite a bit with electronic sound or music rather than the casual explorer, and offers a lot for the home music-maker.

Being largely software-based there is a lot of scope for extensions to the system. It should be possible to create the data needed for an *Amdrum* sound either from scratch with a sound designer, or perhaps by capturing it with a microphone and feeding it in from cassette. You would then have sound-capture facilities approaching those of the fabled Fairlight keyboard. ■

GOOD NEWS	BAD NEWS
▶ High-quality, digitally recorded drum sounds. ▶ Great scope for expansion. ▶ Offers similar facilities to dedicated drum boxes costing ten times as much.	▶ Small and thin manual. ▶ Needs separate amplifier to hear sounds.

Music Master

Vanguard Leisure (0772) 617665, £12.95 cass, £15.95 disk

This is the software package marketed to go with the *Maestro* amplifier and speaker system. It comes on cassette or disk and loads without difficulty. Unfortunately, once loaded you start to wonder whether it's worth the £16 asked for it.

The screen shows three octaves of keyboard, and when you press a key you can hear the corresponding note. The keyboard can be transposed up and down to cover a full eight octaves and you can select any of six voices for the notes. The six function keys f4 to f9 give you rather poorly enveloped percussion sounds. A foreground track can be laid over one or two background tracks.

All this sounds rather good, until you realise that it's all *Music Master* can do! You can only lay down notes in real time, and when you've laid down a backing track (which has to be the right length and in perfect tempo) you must then play the accompaniment and melody line without stopping. I'd be interested to hear of anyone other than a trained musician who can do this without error.

If you do succeed in creating a tune, you can save it to cassette or disk and reload and replay it later. There are no facilities to edit the piece.

So sophisticated is *Music Master* that Vanguard doesn't seem to think it needs a manual, printing brief instructions instead on the back of the box. They contain some odd English, suggesting that DataSync, the people who wrote the program, are from abroad. A pity someone at Vanguard couldn't have edited it through.



Verdict

When you consider that Rainbird's *Music System*, with which the *Music Master* is comparable in price, offers a scrolling manuscript display where you can enter music note by note, as well as a keyboard and synthesiser module to create as many voices as you want, you might feel, as I do, that *Music Master* is vastly over-priced. ■

GOOD NEWS	BAD NEWS
▶ Seems to work as intended.	▶ It never intended to do much.

THE ADVANCED MUSIC SYSTEM

Rainbird
All CPCs, £29.95 disk only

Back in our March issue Pete Connor reviewed *The Music System* from Rainbird, and he liked it a lot. It was certainly way ahead of the competition at the time, and none of the music packages since have really done anything to change this. Not content with merely having the best music product on the market, Rainbird have brought out a new improved version for disk users. They call it *The Advanced Music System*, and I'd say that 'advanced' is the word for it.

Rainbird have added two new modules to the original system: as well as the music editing and playback section, the advanced package has printout and file-linking modules. These beef the system up a great deal, and that's no mean feat considering how thorough it was to start with.

USING THE SYSTEM

You'll notice the extra features as soon as you start using the package. After the loading screen you face a new control screen, with icons meaning link, edit/playback and printout. To start with, the linker is highlighted. You can move the highlight to either of the other modules by hitting the space bar, or select the highlighted module by hitting enter/return. This is the system used throughout the package for selecting icons, so owners of the original system will immediately feel at home.

The first thing you'll want to do is create your piece of music. For this you'll need to select the edit/playback module. This is essentially the same as the system reviewed in March, but it's worth a quick look at it again.

EDITING AND PLAYBACK

The edit/playback screen is dominated by the Voice Monitor Window, or VMW. There are three voices – three separate parts to your harmony – but you can edit only one at a time. You can scroll through the score for each voice, adding and deleting notes as you see fit. The use of a scrolling window makes editing very easy indeed; it is one of the system's strengths that its competitors would do well to emulate.

Editing options include just about every feature a piece of music can have: dynamics, accents, accidentals or whatever. These are all easily accessible from pull-down menus, and there are quicker key combinations you can use once you're more experienced. You can set the system to insert barlines automatically, or you can put them in by hand if you have a taste for irregular time signatures. The only serious omission is triplets, but that's not exactly crippling.
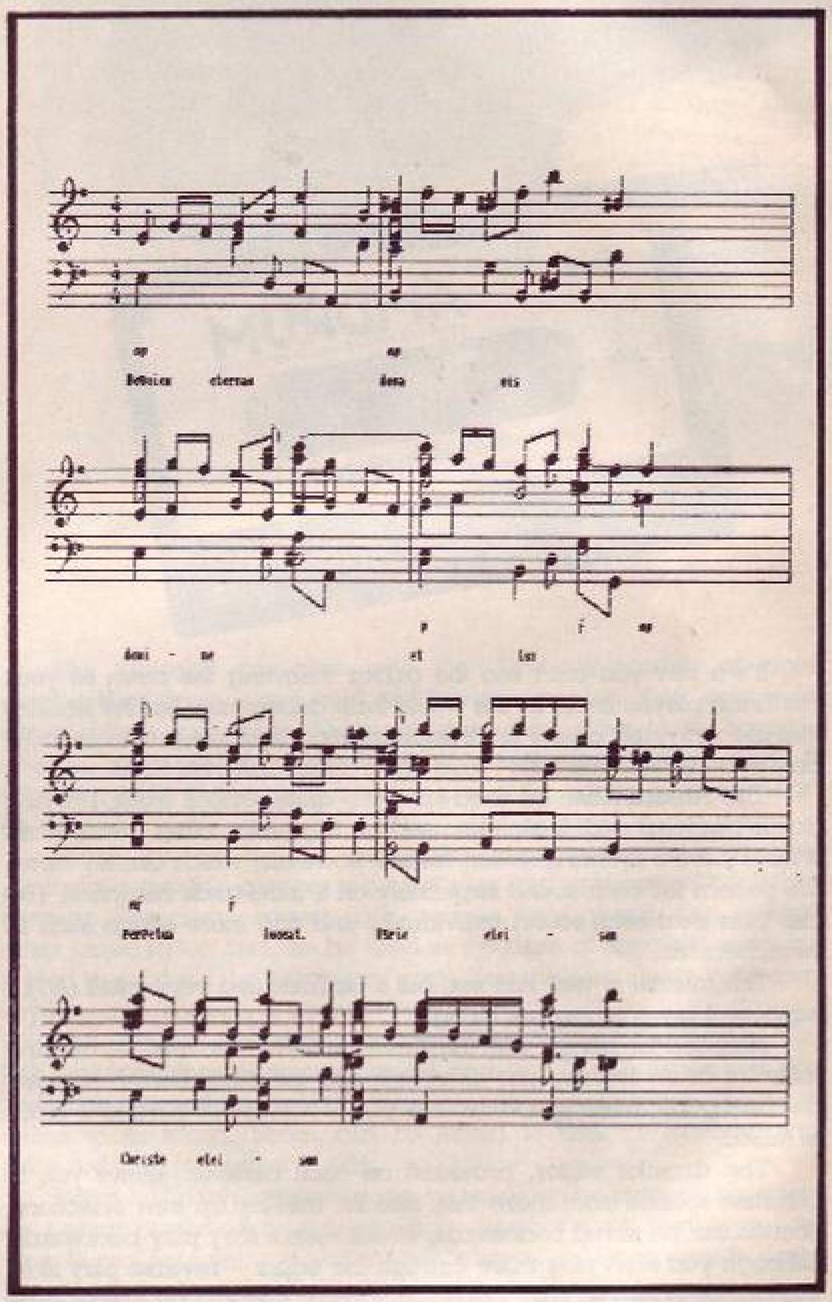
Recording was a unique feature of the original system, and is still something quite unusual these days. In recording mode, part of Arnold's keyboard behaves like a piano. By hitting different keys you can play tunes, either recording them or just practising. Recording a piece of music doesn't just store it for playback – it actually writes your tune onto the stave for subsequent editing or printout.

Once you've written or recorded your tune, you'll want to play it back. Here there is a really nice option: you can set your score to scroll through the VMW, a note at a time, as the system plays it. Unlike in edit mode, all three voices are displayed at once. It's an impressive and entertaining feature, and a great way to track down that elusive wrong note.

What's really nice about the playback system is the way it behaves like normal music. Accidentals affect subsequent notes in the bar, for example, and the first note of each bar is accented. This sort of thing adds to my impression that the package really can offer something to serious musicians, as well as the enthusiastic amateurs most packages cater for.

HARD COPY

The separate printout module is well thought out, and will prove invaluable to musicians everywhere. It can print up to six voices on one stave, displaying dynamics and even allowing you to add a line of lyrics or additional directions.



The ability to handle six different voices is very impressive, but it does cause the odd complication. After all, the editor can only handle three voices and music files only contain three voices. To get a six-voice tune then, you have to edit and play it as two three-voice tunes. You can then switch to the printout module, load the two separate music files you've created and then print all six voices out.

Adding lyrics is very straightforward – just type them in underneath each bar. You can use only one line, though, and some users may find they need to save this for additional, non-*Music System* directions like *legato* or *andante*. The lyrics come out in a small, rather poorly defined typeface but are perfectly readable. It's a shame they couldn't be slightly more legible though – of a quality to match the notes – since the system has obvious uses in music teaching.

The module can drive a wide range of dot-matrix printers, and can cope with continuous or single-sheet paper over 80 or 132 columns. It can split bars at the edge of the page or wrap them onto the next line, cut out individual voices or even clefs, and string separate files together for printing lengthy works.

LINKING

The need for that last printout option stems from the main

shortcoming of the original system: the small amount of memory available for your tune. There's room for a maximum of 1000 notes in memory, and that has to be shared between the three separate voices.

To write longer works than this limit would otherwise allow, you have to use the advanced system's new linker module. This allows you to load in up to 13 music files at a time, with an upper limit of over 6000 notes total.

Having loaded the files you can then build them up into a playing sequence – a list of files to be played. You can repeat movements or entire pieces, so that the sequence itself involves many more than 6000 notes. You can have up to 99 separate entries in the sequence, and that will be more than enough for most purposes. The whole sequence can be saved to disk, loaded in later and played as a concert or simply as one enormous composition.

VERDICT

The main section of the system looks every bit as good now as it did six months ago. The linker goes some considerable way toward solving its space problems and as such is a welcome feature of the advanced system.

But it's the hard-copy facility that really earns that extra £10. The addition of the printer module gives the system a whole range of uses it didn't have open to it before. You can now record a piece on the keyboard, edit it in the VMW and dump it to your printer as a finished score without once having to pick up a pencil.

If you want to arrange a piece for an ensemble and then print each instrument's part separately, the system can do this quite easily. Choral arrangements would need a little more work to cope with differences in the lyrics of separate parts, but the system would still be an enormous advantage.

The printout module makes the *Advanced Music System* a useful musical tool, as well as the entertaining and easy-to-use program the original system was.

GOOD NEWS

- Music edit/record/playback system is still the best on the market by some way.
- Printout module is enormously useful.
- Linker gets round a lot of those space problems.
- Comes with two good, clear manuals.
- Very reasonable price, considering what it can do for you.

BAD NEWS

- Worth the extra £10 only if you've got a dot-matrix printer.



E.M.U. (Electronic Music Utility)

Discovery, all CPCs, £14.95 cass, £19.95 disk

Due for release early in October, this Discovery package could be the first to give *The Music System* a run for its money. It isn't just a simple music program by any means – it could come in very handy as a utility for anyone wanting to add music to their own programs. But let's take a look at the editing and playback side of things first.

MAKING MUSIC

EMU is a menu-driven program: to choose an option, you have to move a highlight up and down or from side to side in a list of choices, hitting the enter or return key when you've found the one you want. This is a deliberate departure from the more fashionable icon system, and does avoid those annoying 'guess what this symbol means' problems. I don't think it really makes much difference in the long run, but it does make things a little easier when you're learning to use the system.

Selecting 'Music' from the main menu gives you the main editing screen, with a new sub-menu running across the top of it. Sub-menu options include edit, record and play. 'Edit' gives you direct access to the scores for the different voices. All three of these are visible at once, so it's easy to create decent harmonies without too much voice-switching.

This is probably just as well, because there is a slight problem with voice-switching on the *EMU*: infuriatingly, it returns you to the start of the piece every time you move from one voice to another. This is a shame, because the editing is otherwise very nice indeed. Using the numeric keypad as an extended cursor pad you can rapidly select the pitch and length of note or rest you want, and facilities for deleting and inserting are the best I've yet seen on a music package.

If all that musical notation seems a little daunting, there's a very effective *Music System*-style 'Record' option using the top two rows of the micro's keyboard as your piano. Once you've recorded your music onto the stave, you can bring all that lovely editing power to bear on it – and that's a strong combination.

USING THE MUSIC

When it comes to doing things with the music you've created, *EMU* may not be able to print the stuff out but it does have another trick up its sleeve. By selecting the option 'Save-RSX' from the tape/disk sub-menu, you can create a 'stand-alone' file. This is a machine-code routine which you can use with your own Basic programs, quite independently of *EMU* itself.

All you need to do to use such a file is write a simple piece of Basic into your program – about five lines, all told. Run these to set the system up, and you can then use the bar command |PLAY to play a particular piece of music.

The music will keep going while you do other things with Arnold, so you could use it quite easily for adding music to Basic games. The only thing it won't play through is a tape load or save, and that's hardly likely to spoil the package for you. It's an easy system to use, and vastly less effort than writing your own music routines. As for space, the demo file of the *Radetsky March* took up 6K – not bad for a substantial piece of music plus the system to play it.

VERDICT

As a straight music-composing program, *EMU* would come second only to *The Music System* for performance and value for money. It lacks the scrolling display and overall simplicity of Rainbird's offering, but you can see all three voices at once and there's that slick insertion and deletion too.

Of course, *EMU* isn't just a composing program. It's also a great way to add music to your own Basic programs, and that's something *The Music System* can't do for you. If you're a musician you might well prefer *TMS*, but if you're a bit of a programmer then *EMU*'s got to be well worth a look.

GOOD NEWS

- Doubles as composing system and programming utility.
- Good recording and editing of music.
- You can see all three voices at once.
- Can add music to your Basic games.
- Very reasonable price.

BAD NEWS

- Can get a bit complex in places.
- Doesn't have *TMS*'s lovely scrolling display.



BOOTING

PART 4

In Part Four of this series Matt Nicholson looks at how you use CP/M to create files and move files around within Arnold. Part Four also says goodbye to the PCW and, like the rest of *Amstrad Action*, concentrates on CPC models exclusively. But never fear, all you Joyce owners, because there is a whole new magazine out devoted totally to you.

So far in this series we have looked at plenty of ways of examining the state of your Arnold. Parts One and Two looked at the DIRectory command, for finding out all there is to know about the contents of your disks; while Part Three looked at STATus, DEVICE and SHOW, for finding out all about the state of Arnold himself. What we have not done is used CP/M to create files or move files around within Arnold. This is where the PIP command comes in.

The letters 'PIP' stand for 'Peripheral Interchange Program', and the name tells us quite a lot about the command itself. First of all the word 'program'. PIP is a self-contained program within the CP/M environment, and is to be found as the file PIP.COM on your CP/M 2.2 or CP/M PLUS system disk. Boot up CP/M, using the back-up copy we created using DISCKIT2 or 3 in Part Three of this series, and not the original system disk. Nowenter **PIP** on the A-prompt, and you will be presented with this on screen:

```
A>pip
CP/M 3 PIP VERSION 3.0
*
```

The first line simply tells you that you what version of the PIP program you have run, and is not present if you are using CP/M 2.2. The '*' is the PIP program's prompt, in the same way that 'A>' is CP/M's prompt. To get out of the PIP program just hit Return, and the A-prompt reappears.

The remainder of the program's title, 'Peripheral Interchange', tells us what PIP does: it is a program for moving files from one peripheral to another. These peripherals include the disk drive, or drives if you have a second connected; and also include the keyboard, the screen, the printer and serial interface – if you have one that is.

The basic format for a PIP command is straightforward, though at first sight illogical as it requires the destination first, and then the source. If you are running CP/M PLUS, try entering **PIP CON:=A:PROFILE.ENG** on the A-prompt. Your screen should look something like this:

```
A>pip con:=a:profile.eng
setkeys keys.ccp
language 3

A>
```

Before you reel back in horror at the result, let's look at what we have asked Arnold to do. First of all we have called up the PIP program by typing 'PIP'. We have then asked the program to transfer the file 'PROFILE.ENG' on disk A to the destination CON:. Looking back at Part Three of this series reveals that CON: stands for 'console', meaning Arnold's screen. So what we see in the last two lines on the screen is the contents of the file called 'PROFILE.ENG'. At this stage in the series the contents of the file are probably totally meaningless, but don't worry about that now!

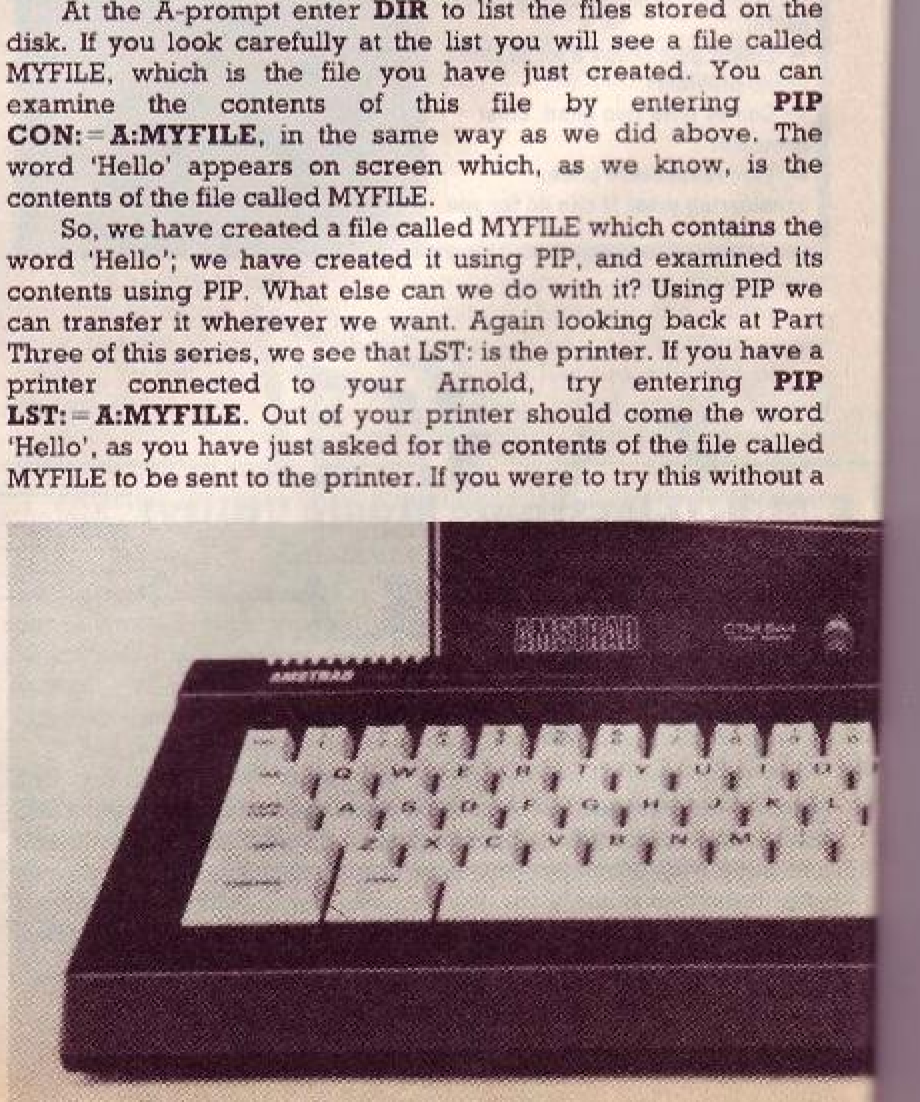
If you are running CP/M 2.2 you won't have a file called PROFILE.ENG on your system disk, however you can get a similar result by entering **PIP CON:=A:LOGO2.SUB**, which displays on screen the contents of the file LOGO2.SUB. It may seem strange to have to put the destination first in PIP commands, but if you think of this command as 'setting (the console) to equal (the contents of file LOGO2.SUB)' it makes a bit more sense.

CREATING YOUR OWN FILE

What we have done here is to ask for the contents of a file to be displayed on screen. However we could do this the other way round, and send the input from the Console to become the contents of a file. This may not make much sense until you realise that the 'console' means the keyboard as well as the screen to CP/M. So, try entering **PIP A:MYFILE=CON:** at the A-prompt. What this does is 'set the file called MYFILE to equal the input from the keyboard'. After you hit Return the cursor moves to the start of the next line, waiting for your input. Type **Hello**, followed by **Control Z** (hold the Control key down and hit the 'Z' key). 'Control Z' is a special character that means 'this is the end of the file'. The disk drive should whirr for a second, and then the A-prompt reappears.

At the A-prompt enter **DIR** to list the files stored on the disk. If you look carefully at the list you will see a file called MYFILE, which is the file you have just created. You can examine the contents of this file by entering **PIP CON:=A:MYFILE**, in the same way as we did above. The word 'Hello' appears on screen which, as we know, is the contents of the file called MYFILE.

So, we have created a file called MYFILE which contains the word 'Hello'; we have created it using PIP, and examined its contents using PIP. What else can we do with it? Using PIP we can transfer it wherever we want. Again looking back at Part Three of this series, we see that LST: is the printer. If you have a printer connected to your Arnold, try entering **PIP LST:=A:MYFILE**. Out of your printer should come the word 'Hello', as you have just asked for the contents of the file called MYFILE to be sent to the printer. If you were to try this without a



G UP CP/M

printer connected the words *LPT not ready – Retry, Ignore or Cancel?* will scroll across the bottom of your screen. Hit 'C' to cancel this instruction and the error message disappears to be replaced by the A-prompt.

COPYING FROM DISK TO DISK

One of the most important applications of the PIP program is the copying of files from one disk to another. The ability to copy files from disk to disk means that you can create disks with just the files you need for any given task. It also means you can optimise on disk space, and keep back-up files of important data in case anything goes wrong. For this reason the PIP command is probably the one you will find yourself using most often.

If you are one of those people fortunate enough to own a second disk drive, copying files from one disk to another is easy. First of all you will need a freshly formatted disk, created using DISCKIT2 if you are running CP/M 2.2, or DISCKIT3 if you have CP/M PLUS. Put your fresh disk in the second disk drive, and your back-up copy of the CP/M system disk – the one containing your newly created MYFILE – into the built-in disk drive. CP/M calls the built-in drive 'Drive A', and the second drive 'Drive B'; so to copy MYFILE from drive A to drive B you enter **PIP B:=A:MYFILE** on the A-prompt. In fact **PIP B:=MYFILE** would have done just as well, as CP/M assumes that MYFILE is on drive A unless you tell it otherwise, as A is the Active Drive.

Both drives will whirr for a short time, leaving you with the A-prompt on screen. Now enter **DIR B:** at the A-prompt, to give you a directory of the disk in drive B. The screen will simply display the name MYFILE as being the only file on drive B. You can enter **PIP CON:=B:MYFILE** to prove to yourself that this file does indeed contain the word 'Hello'. Now enter **DIR** by itself, to get a list of the files on the disk in drive A. Once again you will see the file MYFILE listed there; and you have succeeded in making a back-up of the file you created earlier.

But what about us? I hear all you single disk drive owners ask. If you are running CP/M PLUS then you are OK, because CP/M PLUS has a trick up its sleeve for pretending that your built-in drive is actually two seperate drives – drive A and drive B. If you reset your machine (by pressing the Shift, Control and Esc keys at the same time) and re-boot CP/M PLUS, you will notice the words *Drive is A:* down at the bottom right-hand corner of the screen. Now enter **B:** at the A-prompt. Arnold will let out a little beep and scroll the message *Please put the disc for B: into the drive then press any key* across the bottom of the screen. Put a clean, formatted disk into the drive and press any key, just as the message asks. Arnold whirrs for a moment, and then displays B> in place of the usual A>. Note the bottom right-hand corner of the screen – it now reads *Drive is B:*.



USING THE PIP COMMAND

The **Peripheral Interchange Program**, contained in the file PIP.COM on your CP/M system disk, is used for copying files from one disk to another, or to and from peripheral devices. The basic format is:

PIP Destination=Source
or
PIP
***Destination=Source**

If the destination and source are disk files they should be specified **Drive:filename.filetype**, where the Drive is either A or B. The Drive letter can be omitted if the file is on the active drive. The wild cards ? and * can be used as required, and the file-name and type of the destination can be omitted altogether if you don't wish to change the name of the file you are copying. So **B:=A:*.*** copies all the files on drive A to drive B.

Either the destination or the source of the PIP command can be peripheral devices, so the following can be used as required:

CON: As the destination means the screen; as the source means the keyboard.
LST: Can only be used as the destination, when it results in the source being directed to the printer.
TTY: As the destination means the source will be output through the serial port; as source means the destination will take information from the serial port.

So CP/M PLUS owners can pretend they have a second disk drive, even though they only have one – though it can involve a considerable amount of disk-swapping. CP/M PLUS is fairly intelligent when it comes to keeping track of which disk is which, and always prompts you in this manner when you have to change disks; but it can be fooled. If you were to put in the B disk when it was asking for disk A it would blindly continue – Arnold trusts you to remember which disk is which.

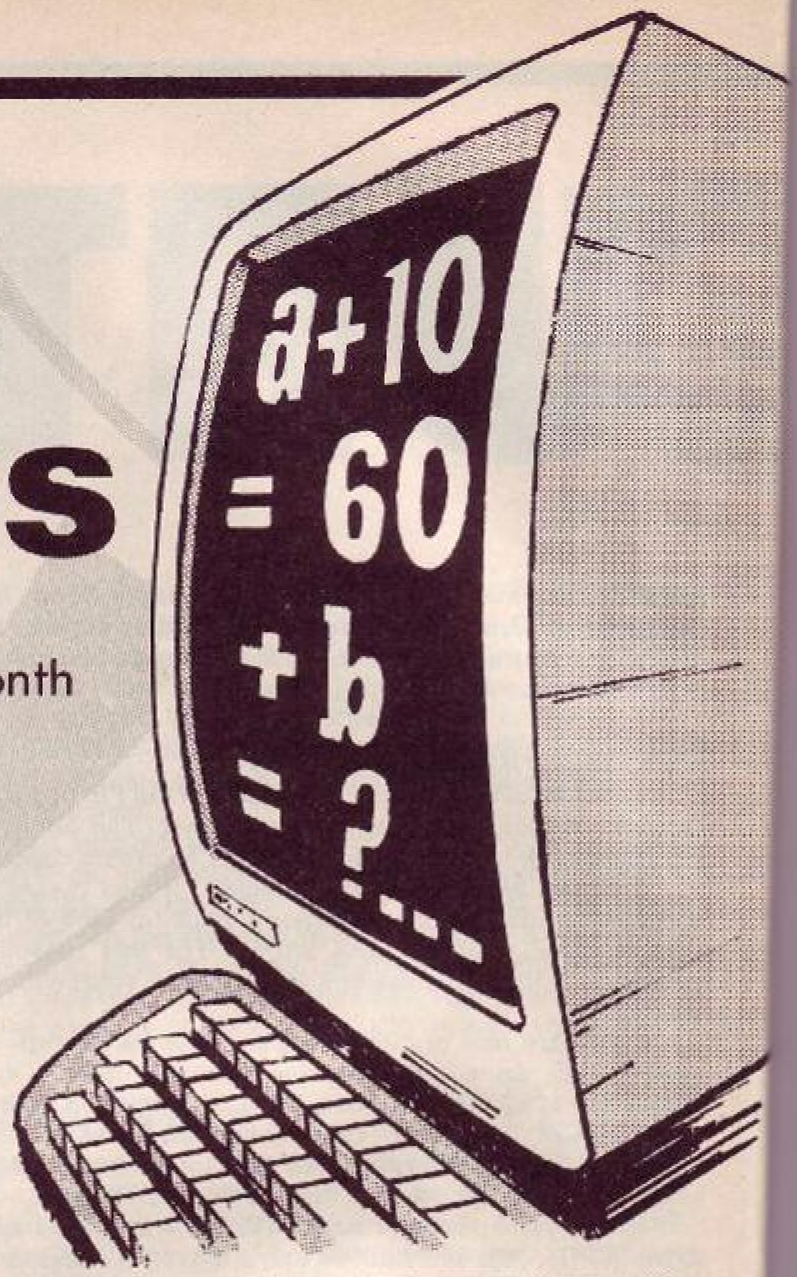
So, to copy MYFILE onto a new disk with a single-drive CP/M PLUS system, proceed as though you had two disk drives but follow the on-screen prompts as to when to change disks. I am afraid that CP/M 2.2 does not have this flexibility: you can only use PIP to copy files from one disk to another if you actually have two disk drives connected. One more reason for using CP/M PLUS rather than the older CP/M 2.2!

LOSING A DAY'S WORK

Having created a file, examined it and copied it onto another disk, let's round off by learning how to delete it! This is done very simply using the ERAse command. As you might imagine this command is to all intents and purposes irreversible, unless you own a suitable Disk Doctor-type program, so care is needed in its use. We can get rid of our little MYFILE quite easily, by entering ERA MYFILE at the A-prompt, but a safer way of doing this in CP/M PLUS is to enter **ERA MYFILE [C]**, which requires the file ERASE.COM on your system disk. This asks for confirmation first, before committing the final act. Simply hit the 'Y' key and your file is gone forever.

Next month we will look further at the use of the PIP command, before looking at some of the other programs supplied on your CP/M disks – so see you then. ■

Absolute Beginners



Andy Wilton's crash course in Basic this month moves on to expressions and tests out Arnold's arithmetic

PART 6

In case you hadn't realised, we've come quite a long way from where we started in *Absolute Beginners* Part 1. You should now know how to write simple programs to put text and graphics on the screen, and how to save yourself effort by making Arnold perform bits of your program repeatedly.

You'll also have had a first look at what variables are, and what they can do for your programs. We'll be taking this quite a bit further this month. If things seem to get a bit complicated, just remember what *variables* are – they're letters or words used to stand in for numbers.

EXPRESSIONS

Many commands in Basic are controlled by *operands* – numbers that come after the commands themselves, describing precisely how Arnold should perform the tasks the commands tell him to.

Let's take a closer look at operands for a moment. We've already seen over the last couple of months that we can use variables as operands. That's because, as we've already seen, variables are words that stand in for numbers. The line 'a=80:b=120:PLOT a,b' means the same as 'PLOT 80,120' because 'a' stands in for the number 80 and 'b' stands in for the number 120. It doesn't end there though.

Remember how we used PRINT last time to display the values of variables? Type this program in, and RUN it:

```
10 a=50
20 PRINT a
30 PRINT a+10
40 b=40:PRINT a+b
50 PRINT a+b-10
```

You should get a list of numbers running down the screen. The first of these comes from 'PRINT a' in line 20. The number is 50, because that's the value of 'a'. The second number, 60, comes from 'PRINT a+10' in line 30. Since 'a' has a value of 50, 'a+10' has the value 60 and that's what the PRINT command displays.

The other two numbers speak for themselves. Satisfy yourself that you understand why Arnold prints those values, and then type this next program in – not forgetting to NEW the previous one first.

```
10 a=95:b=140
20 MOVE a,b,1
30 DRAW a,b+80,1
40 DRAW a+50,b+80,1
50 DRAW a+50,b,1
60 DRAW a,b,1
```

As you can see when you RUN it, the program draws a rectangle. The variables 'a' and 'b' determine where the rectangle goes on the screen, so you can put it somewhere else just by substituting in a new line. Try that now – just type in '10 a=470:b=10' or similar – and you'll see that the whole rectangle is drawn somewhere else altogether, but it's still the same shape as before.

We've seen variables do this sort of thing before, allowing us to change the effect of a program in some way without having to alter every line of it. Notice how all the MOVE and DRAW coordinates depend on the values of 'a' and 'b'. It's quite okay to use things like 'a+50' as the operand of a command: Arnold just looks up the value of 'a', adds 50 to it, and uses the answer as an operand in the normal way.

Where you've got something like 'a+50' or 'a+b-10', we call it an *arithmetical expression*, or just *expression* for short. You've already met expressions in the square-dragging program from last month's *Absolute Beginners*: if you've got the September *AA* to hand, you can go back and take a look at it.

A BIT OF ARITHMETIC

If you'd always thought computer programming was all about maths, don't worry – it isn't. A little bit of simple arithmetic can come in handy, though. It's hardly frightening stuff. We've already seen adding and subtracting in the expressions above, and they're really very easy.

Multiplying and dividing are almost as simple, but there is a slight snag. Take a look at Arnold's keyboard. You should find the plus and equals signs easily enough, and you can soon figure out which one the minus sign is – but where are the multiply and divide signs?



Well, they are there, but they just don't look the way you might expect them to. Instead of '×' for multiply, you use '*' (you must hold down <shift>) and instead of '÷' you use '/' (same key as the question mark). Type this program in, and RUN it:

```
10 a=20:b=4:c=5
20 PRINT "Multiplication"
30 PRINT a*b
40 PRINT a*c
50 PRINT "Division"
60 PRINT a/b
70 PRINT a/c
```

The nice bit about all this is that Arnold does all the work. He's got a sort of built-in calculator to do your number-crunching for you, so all you've got to do is tell him the sum you want him to work out.

MORE ON VARIABLES

The whole point of a variable is that you can vary it – change its value, in other words. To do this, you use an *assignment*, like 'a=40' or 'd=571'. So far, this is the only kind of assignment we've seen: *variable name = number*.

In fact, assignments can be rather more powerful. Instead of a number after the '=' you can use a variable or expression. Try this program out:

```
10 a=90
20 b=a
30 PRINT b
40 c=b+20
50 PRINT c
```

The assignment in line 10 sets the value of 'a' to 90. The assignment in line 20 makes the value of 'b' the same as that of 'a' – 90, in other words – so that's the value that gets printed out by line 30. Line 40 works in a similar way, making 'c' equal to the value of 'b' plus 20. You can see that it's worked from the value printed by line 50.

That's all very well, but the next bit takes assignments a whole lot further. Type this in and RUN it:

```
10 a=55
20 PRINT a
30 a=a+10
40 PRINT a
50 a=a+10
60 PRINT a
```

The assignments in lines 30 and 50 are a bit different from what we've seen before. The new value that each of these assignments gives 'a' depends on the value of 'a' up to that point. As you can see from the numbers printed out by the program, 'a' has a different value at each of lines 20, 40 and 60. Even though the assignments in lines 30 and 50 are identical, they don't give 'a' the same value.

Each of the 'a=a+10' assignments increases 'a' by 10. This is not a proper equation in ordinary maths, but Basic takes 'a=a+10' to mean *take the current value of 'a', add 10 to it and make that the new value of 'a'*. This idea of using the old value of a variable to make its new value can come in very handy indeed.

LOOPS AGAIN

Let me show you a program that uses this idea. Type it in and RUN it, and see what it does:

```
10 a=1
20 FOR b=1 to 20
30 a=a*2
40 PRINT a
50 NEXT b
```

The numbers it prints out are powers of 2. Line 30 doubles the value of 'a' each time, and line 40 puts the new value on screen. We don't actually use the loop variable 'b' in this process. It's just there to make sure Arnold runs through the FOR-NEXT loop the right number of times.

Even if you're crazy about numbers, that last program probably didn't get you too excited. Well, let's see if we can't do something a bit more interesting. Try this listing out:

```
10 FOR a=1 to 50
20 CLS:MOVE 320-a,200-a
30 DRAW 320+a,200-a,1
40 DRAW 320+a,200+a,1
50 DRAW 320-a,200+a,1
60 DRAW 320-a,200-a,1
70 NEXT a
```

It's a modified version of the square-dragging program from last time – yes, that old one again – only this time the square stays in the middle of the screen, starting as a point of light and gradually growing larger. You could use the STEP command to make it grow faster, the way we did last time. Try modifying the program to read like this:

```
5 a=1:b=2
10 FOR c=1 TO 10
15 a=a*b
20 CLS:MOVE 320-a,200-a
30 DRAW 320+a,200-a,1
40 DRAW 320+a,200+a,1
50 DRAW 320-a,200+a,1
60 DRAW 320-a,200-a,1
70 NEXT c
```

Now you'll find the square grows faster and faster, as if you're flying towards it. So what's changed?

The variable 'a' controls the size of the square. In the original program 'a' was the loop variable, so it increased by a fixed amount each time. In the modified program, on the other hand, 'a' doubles each time. That's what the 'a=a*b' in line 15 does. It's the same technique we used in the 'powers of 2' program you typed in earlier on, only here the variable 'b' is used instead of 2. It works the same way though, because line 5 set the value of 'b' equal to 2.

The only problem with this modified program is that it's a bit fast. If we want to slow it down, we're going to have to reduce 'b' a little. Try changing line 5 to '5 a=1:b=1.5' – just use a full stop for the decimal point.

Now edit line 10 so that the loop repeats a few more times: '10 FOR c=1 TO 20' is about right, but the precise number isn't too important. To slow the program down still further, just set 'b' to some even smaller number – but keep it greater than 1 – and alter the loop count in line 10.

SUMMARY

In *AB* Part 1 we saw that many commands have numbers which control them: these numbers are called *operands*. In the last two instalments we saw how *variables* – letters or words which represent numbers – can serve as operands. This time, we've seen that an operand can in fact be an *arithmetical expression* like 'a+10' or 'c=d+32'.

You can perform all the normal arithmetical operations, but some of them use unfamiliar symbols. While 'a' plus 10 is just 'a+10' and 'a' minus 10 is 'a-10', 'a' times 10 and 'a' divided by 10 are 'a*10' and 'a/10' respectively.

Expressions aren't just useful as operands. They can also be used in *assignments* – the commands which assign values to variables. Things like 'a=b' or 'a=45*b' are fine. You can take this even further with assignments like 'a=a+10', which increases 'a' by 10, and 'a=a*2' which doubles 'a'.

WE NEED YOU!

A new mag from the Old Barn means big changes to Serious Software – we need your help!

This month sees the launch of a new magazine from the Old Barn – called *8000 PLUS*. The new title is devoted totally to owners of the PCW 8256 and 8512, which means that we on *AA* can devote all our pages to the CPC range: the 464, 664 and 6128.

Although the PCW became the star of Serious Software, this does not mean that *Amstrad Action* becomes purely a games mag. Serious Software will still cover what business packages come out for the CPC models, but can devote more space to other aspects of home computing such as programming, type-ins, hints and tips, comms, graphics and music – our seven-page special this month.

We would like your help with Serious Software: after all it's your mag. Send us your **Type-ins**. We are looking for quality listings that show elegant use of Basic or even machine code. We will print them if they are worth typing in. Use the form on page 64 and remember, we pay for what we print.

Having problems with Basic? Can't get your printer to print? Worried about Wordstar? Then write to **Problem Attic, Amstrad Action** at the Old Barn. We will print your problems and if we can't answer them ourselves then maybe one of our multitude of readers can – and if they can't they might like to read the reply. But please don't ask us for solutions to games. If we printed those it might spoil the game for others, and there might not be room in *AA* for anything else!

Send us your hints and tips. If you've found any neat tricks to use in Basic, Wordstar, Graphic Adventure Creator, Quill, dBaseII, or machine code – or just want to show off – then send your tips to **Hot Tips, Amstrad Action**, at the Old Barn.

And if you are using your CPC to control your train set, run your business, play in a rock and roll band, or anything else that you might like to tell us about; the address is **A Day in the Life, Amstrad Action**, at the same address. Tell us what you are up to in anything from five to 500 words, and we will let the cat out of the bag. Please include your phone number too, so that we can contact you should we need more details.

CPC owners, this mag's now totally for you!

SERIOUS SOFTWARE TOP TEN

The chart created by AA readers

This month	Last month	% of votes	Title	Software house
1.	1	36.9%	GRAPHIC ADVENTURE CREATOR	Incentive
2.	5	8.4%	TRANSMAT	Pride Utilities
3.	6	6.8%	LASER BASIC	Ocean
4.	7	6.5%	TASWORD	Tasword
5.	3	6.3%	AMX MOUSE	AMS
6.	–	6.3%	MINI OFFICE	Database
7.	4	6.1%	EASI AMSWORD	Amsoft
8.	2	4.4%	MINI OFFICE 11	Database
9.	9	3.2%	THE QUILL	Gilsoft
10.	–	2.5%	ELECTRIC STUDIO LIGHTPEN	Electric Studio

Graphic Advenrure Creator is still holding on to the number one position, and has been there since the June issue, so you guys must be writing some pretty hot adventures! If you are, then let us know - we're always interested in what you're upto out there.

Both *Mini Office* and *Electric Studio Lightpen* make a re-entry, and *Laser Basic* is doing well, but nothing is getting anywhere close to challenging *GAC* up at the top. And if you're interested in word processing, then *Tasword* would appear to have your vote.

 Love missile CPC 464

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Spectrum 48/128	Cassette £8.95	MSX	Cassette £9.95



Technical consultant, Brian Jacks, completing a successful UCHI MATA, one of the many exciting thrpws incorporated in the game.

Brian Jacks received his black belt, 1st Dan, when only 15. He is now a 7th Dan, an elite world group. Having won the British Championship eleven times, the Open Championshp five times, the European Championship four times and an Olympic Medal, he is one of the most knowledgeable and foremost exponents of Judo in the world.

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REVENGE FOR BEYOND

Beyond have earned their first Mastergame award with the truly epic game *Doomdark's Revenge*. This amazing feat of programming is the sequel to *Lords of Midnight* and features 6,000 locations, 48,000 panoramic views, 128 very independent characters, 128 objects, a quest, a war game – in fact there's so much there you'll need to set aside a week to start playing it, but first set aside a few minutes to read the full facts on pages 42 and 43.

There's a strong supporting cast of very different Raves that should appeal to many different tastes. There's *Powerplay*, an excellent game featuring trivia questions in a whole new format, and there's a great special offer on it as well: page 48 for the review and 78 for the offer. *Fourth Protocol* is another fascinating game, based on Frederick Forsyth's book about international espionage and a plot to blow up London: save the world on page 48.

Impossible Mission has finally arrived and despite the delays is still a great game – check that out on page 36 – while *Dan Dare*, the comic-book hero, is blasting out from Virgin on page 38.

A great month for variety. If something here doesn't suit you then nothing will.

COMPATIBILITY

All the games reviewed this month are compatible across the whole CPC range.

ACTION TEST

MASTERGAME

AA RAVES

OTHER GAMES TESTED

TOP 20 AMSTRAD GAMES

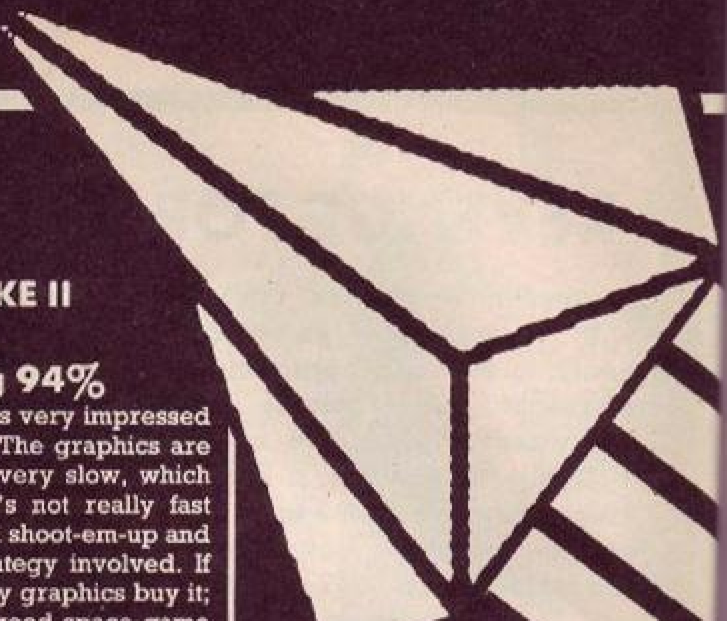
The chart created by AA readers

This month	Last month	% of votes	Title	Software house
1.	1	9.3%	GET DEXTER	PSS
2.	12	8.9%	GREEN BERET	Imagine
3.	5	7.2%	BOMBJACK	Elite
4.	4	6.1%	BATMAN	Ocean
5.	2	6.0%	SPINDIZZY	Electric Dreams
6.	3	5.4%	ELITE	Firebird
7.	—	4.8%	BOUNDER	Gremlin
8.	6	4.2%	THE COVENANT	PSS
9.	10	3.7%	HIGHWAY ENCOUNTER	Vortex
10.	—	3.6%	GHOST'N'GOBLINS	Elite
11.	2	3.5%	SORCERY PLUS	Virgin/Amsoft
12.	9	3.4%	COMMANDO	Elite
13.	20	3.2%	YIE AR KUNG FU	Imagine
14.	—	2.8%	KANE	Mastertronic
15.	—	2.8%	HARVEY HEADBANGER	Firebird
16.	13	2.4%	WHO DARES WINS 11	Alligata
17.	—	2.2%	KUNG FU MASTER	U S Gold
18.	—	2.0%	TURBO ESPRIT	Durell
19.	18	2.0%	SPELLBOUND	Mastertronic
20.	—	1.7%	TLL	Vortex

No change to the top position, but *Green Beret* certainly seems to have won out over *Commando* and *Who Dares Wins II* for valour in combat. *Rambo* appears to be out of the running as far as you're concerned.

Loads of new entries too, with votes going to *Bounder, Ghosts'n'Goblins, Kane, Harvey Headbanger, Kung Fu Master, Turbo Esprit* and even *TLL*.

Remember that these charts are totally independent because all the votes come from you. Use the voting form on page 72 to place your vote and watch the chart change!



VOICE OF THE PEOPLE

A host of plaudits for Mastertronic's *Knight Tyme* this month, and with Firebird's *Harvey Headbanger* getting more favourable comment and *Thurst* popping up, it's a good month for budget games. Meanwhile *Ghosts'n Goblins* got most of the praise for the full-price brigade. We've also got comments on *Knight Games* and *Storm* where it looks as if we'll have to agree to differ.

If you want to tell us or a software house how right or wrong we've got a game, then VoP is the place to do it. Send your comments on the back of a postcard or stuck-down envelope to: *Voice of the People, Amstrad Action, The Old Barn, Somerton, Somerset, TA11 5AH.*

THRUST
Firebird
AA Rating 94%

I have waited four years for this game, ever since the *Gravitar* machine, of which *Thrust* is an unashamed clone, was taken away from my local arcade. A sad day, but the wait has now been worth it.

Thrust has a few differences from the real thing, but the graphics, choice of keys and smooth scrolling make it every bit as good and as addictive. At £8.95 you wouldn't be disappointed, but at £1.99 this is Mastergame material.

Neil Robertson, Aberdeen



STORM
Mastertronic
AA Rating 84%

Another magazine in a preview of this game stated 'even this preview was enough to thrill'. All I can say is the reviewer must be easily pleased. I found this program completely boring and definitely not up to the standard of the other current Mastertronic releases.

Gerry Hughes, Cranleigh

GHOSTS'N GOBLINS
Elite
AA Rating 86%

This game has it all: good sound, great graphics and addictive gameplay. My only moan is that after a while it can get frustrating. But it's still a great buy!

Simon Doyle, Dingle

This game is very good but it does have some flaws: no losing of armour, no weapons (*features of the original arcade game – dep.ed*). Worst of all is its bad structuring: you can go a long way and then get killed and have to go all the way back. However, good graphics, sound and very addictive.

Simon O'Connell, Sidcup

Elite have done it again. This game is fantastic and is taken straight from the arcade. If you don't own an Amstrad buy one now and make sure *Ghosts'n Goblins* is one of the first games you buy. It is totally addictive and presents a real challenge to any gamester. It has great graphics, a fantastic tune and underneath this there's a great game.

Richard Connelly, Crofton

KNIGHT GAMES
English Software
AA Rating 72%

This game is excellent. The graphics are the best I have ever seen on the Arnold. The music is brilliant and the gameplay is utterly amazing. One niggle is that sections load separately. It is by far one of the best games made and will without a doubt win a Rave or Mastergame. English Software have produced a winner!

C Morris, Swansea

STARSTRIKE II
Realtime
AA Rating 94%

I can't say I was very impressed with this one. The graphics are good but are very slow, which put me off. It's not really fast enough to be a shoot-em-up and there's no strategy involved. If you want pretty graphics buy it; if you want a good space game get *Elite*.

Richard Connelly, Crofton

SOCCER '86
Loriciels
AA Rating 61%

The grace and artistry of Platini and his colleagues is not needed here – it's more a question of pretending to be Wimbledon and playing kick-and-run. Graphics and sound are quite nice, but it's far too easy if you're a clogger.

Kevin Lucy(?), Worthing

HARVEY HEADBANGER
Firebird
AA Rating 91%

A very simple idea but a very enjoyable and compulsive game. As a one-player game I'd imagine the novelty would eventually wear off, but if you've got an opponent you could have unlimited fun with this at the incredible price of £1.99.

Gerry Hughes, Cranleigh

The first surprise about this game was the loading music. The second was how good it was. I didn't think it could be that good, but it was. The two-player game is great fun and the one-player game is pretty tough. At £1.99 you've no excuse, so buy it!

Simon Doyle, Dingle

KNIGHT TYME
Mastertronic
AA Rating 95%

This budget arcade adventure from Mastertronic is superb. There's a lot of tough puzzling and a large area of planets to explore. The pleasant tune which plays throughout overcomes the disappointing lack of sound effects. The only bad point is the frustration of getting a long way into the game, making one mistake, and having to start all over again.

This is more than made up for by the rewarding feeling after working out a puzzle which you couldn't do before. All-in-all a tremendous budget game which beats most full-priced games easily.

Mark Reynolds

The Magic Knight series gets better with every game. *Knight Tyme* is a great little arcade adventure that will provide hours of fun, although some of the early puzzles are fairly obvious. At £2.99 this is a match for any full-priced game and if you don't buy it you must be M.A.D.!

Gerry Hughes, Cranleigh

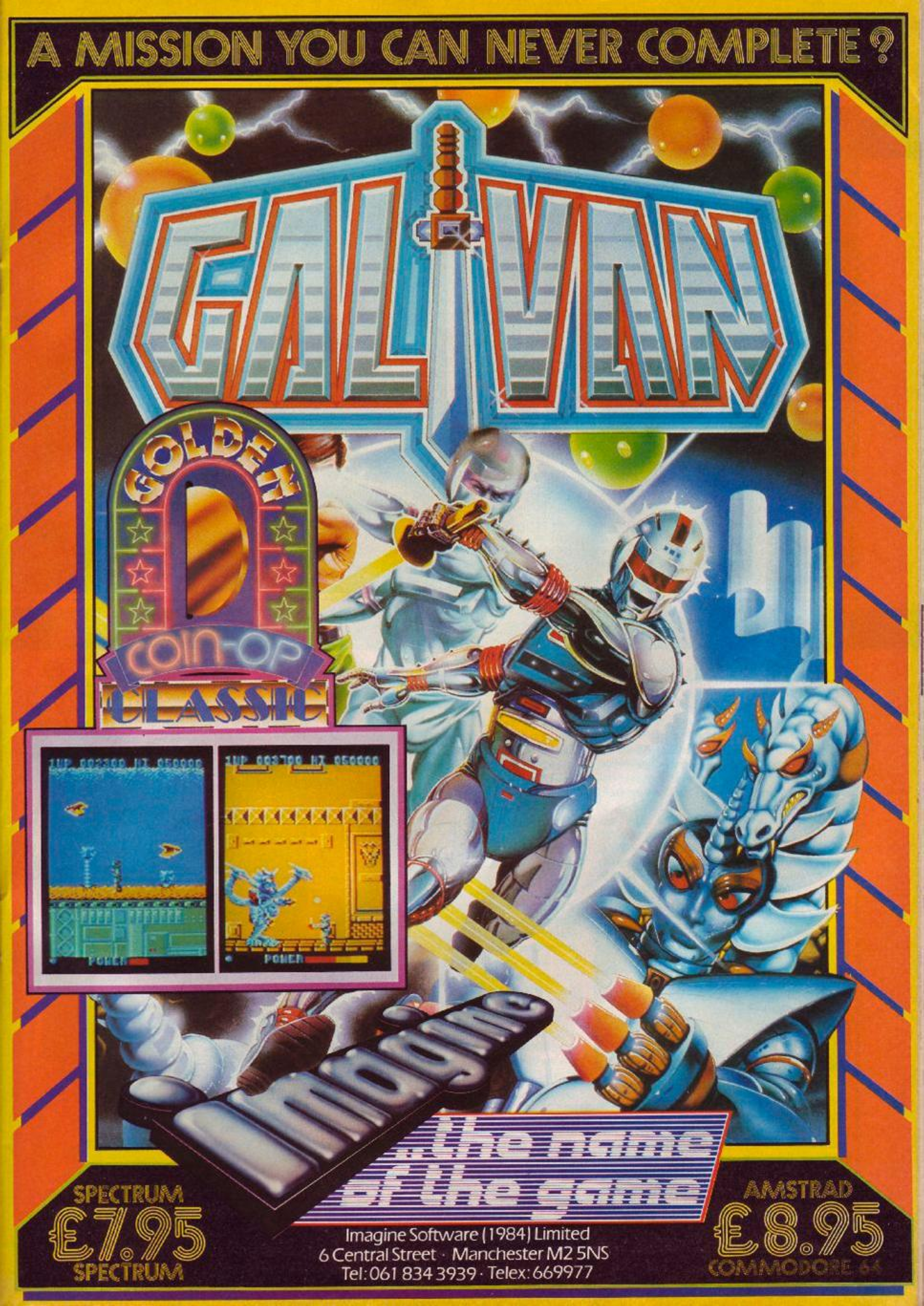
This is a very good game. It has good graphics and a good tune. the adventure element is very strong because of the many windows you can call up. There are a lot of puzzles which will make it tough to crack.

Craig Munro, Loanhead

This has probably got to be one of the best budget games of all time. The graphics are really good and sound is used to good effect as well. The windimation system is a joy to use and the whole game is very easy to get into. But the problems are not easy to solve and present a long-lasting challenge. I can say no more than that this game is brilliant and superb value for money.

Richard Connelly, Crofton




A MISSION YOU CAN NEVER COMPLETE?
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COIN-OP
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MERMAID MADNESS

Electric Dreams, £9.99 cass, £14.99 disk, joystick only

Graphically this game is very impressive indeed and stars one of the weirdest computer characters you could ever hope to encounter, namely Myrtle the Mermaid. She's a stout-swilling, man-chasing, sea-dwelling, 112-year-old mound of heaving flesh, intent on rescuing the unfortunate Gormless Gordon from a watery grave.

The action starts with a very overweight, naked blonde chasing a diver off the end of a pier and diving into the water, and she sprouts a tail in the process. From there your task as the mermaid is to find the diver again and release him before his oxygen supply runs out. Finding him involves getting past many deadly sea creatures and solving some puzzles.

You can swim around the delightful underwater screens and also walk on an outcrop of land in the search. In the water the mermaid has a nicely animated swimming action, while on land she looks like Cyril Smith breakdancing. You're quite buoyant with all that blubber so you may find control a little awkward, particularly when trying to squeeze past creatures in tight corners.

The sea creatures appear on most screens and vary from sharks to jellyfish and sea-horses. They're all nicely drawn and like the scenery very colourful. Every time you bump into them the level of stout in a bottle goes down. It's fatal if it empties completely. Since you have only one life this is pretty serious, but there are replenishing bottles left lying around. Some animals will kill you instantly; you have to find these by trial and error and steer well clear of them.

SECOND OPINION

The controls on this one are so cumbersome and so frustrating, you could be forgiven for giving up altogether. You wouldn't miss that much if you did, either. The 'Wally' games handled this kind of puzzling much better, and they look pretty tired now. Great graphics don't make up for weak gameplay.

AW

You can carry one object at a time and need to use it to clear obstacles from your path or to solve problems. For instance it's fairly obvious what you do with dynamite but where should you use it and what do you need on a completely dark screen? The problems are fairly simple but with one mistake proving fatal, it may take a little while to crack some.

As you get closer to Gordon a heartbeat on screen gets faster but for the most part there isn't much exploration to be done, just a lot of experimentation.

The graphics are certainly the best thing about the game. The gameplay is harmed by frustrating situations in which the mermaid gets stuck against a creature or dies instantly after a lot of hard work. However despite those reservations, it looks good, sounds good and will present an enjoyable challenge for a while.

BW

GOOD NEWS

- **Very colourful graphics and good animation.**
- **A good dose of humour.**
- **A novel setting and implementation of this kind of arcade adventure.**
- **Should take a while to crack completely.**

BAD NEWS

- **Controls can be very frustrating when encountering creatures.**
- **Not enough depth to the puzzles.**

IMPOSSIBLE MISSION

US Gold/Epyx, £9.95 cass, £14.95 disk, joystick or keys

I'll spare you the clichés about the late arrival of the game; suffice it to say that I'm relieved it's finally here. By now many of you will know what the game is about, and the crucial question is whether its age has made its gameplay outdated.

The mission isn't impossible but it's certainly one of the toughest you'll come across, involving not only some great joystick action but demanding puzzles as well. It's set in an underground complex of 32 rooms, connected by lift shafts and corridors. Hidden in the 32 rooms are 36 password puzzle pieces that have to be collected and put together to form a nine-letter password. This password will enable you to prevent the destruction of the world – heavy, man!

SECOND OPINION

This one ought to be dated, but it isn't – it's just good stuff. There are an awful lot of 'search the furniture' games around at the moment, but IM*'s tough puzzles and timing problems put it streets ahead of them. Addictive, challenging and fun.*

AW

All of the rooms are viewed in 2D and contain five basic elements: platforms which you can run on, lifts to get between platforms, computer terminals, furniture and robots. Each room always has the same platform layout, furniture and number of robots, but the arrangement of the rooms in relation to each other and the behaviour of each robot varies with every new game.

Your character runs around the rooms and can somersault to avoid gaps in the floor and robots. He has to find and put together the 36 puzzle pieces within six hours, real time. However, every time he dies he loses ten minutes of the time available, and that can quickly eat into the time remaining. He searches the furniture while standing in front of each item for a set time; it then disappears and a message tells you what he found there.

If there is no puzzle piece then there may be a robot snooze, lift initialisation (which resets the position of lifts in a room) or nothing at all. The robot snooze deactivates the robots for a time and stops them killing your character with their electrical discharges or by running into him. When they're reactivated, though, they return to their preset movement patterns, and might ignore your character's presence, react to him on sight, sense his being in the room, shoot or speed up. The only way to find out how each one behaves is to watch it carefully and be ready for the various different reactions.

There are two code rooms, in addition to the other 30, and in these you can gain additional robot snoozes and lift resets. You are played a series of notes (one note more every time you succeed) which have to be played back in ascending order to gain a code.

Once you've collected a number of puzzle pieces you can operate a computer to attempt to put them together. Four pieces will link up to make a code that gives you one of the nine letters in a password. The pieces fit together like a complicated jigsaw and at first it may take a long time to form complete codes. However, as you become familiar with the shapes they form and recognise individual pieces, it becomes easier.

Searching the rooms, avoiding the robots and putting together the puzzles is very absorbing. It isn't quite as exciting as it might have been a year ago but it still has all the essential addictive gameplay that's needed. The animation and graphics are adequate although nothing more, and the sound is limited to a few effects like the noise of footsteps as you run and the buzz of robots shooting. It's a shame it's been a long time coming but it's still an excellent game.

BW

THIRD OPINION

Similar action to Mission Elevator, Nexus *and* Max Headroom, *but* Impossible Mission *is everything those games should have been. The graphics are great, the action spot-on, and the puzzling element just right. Buy it now!*

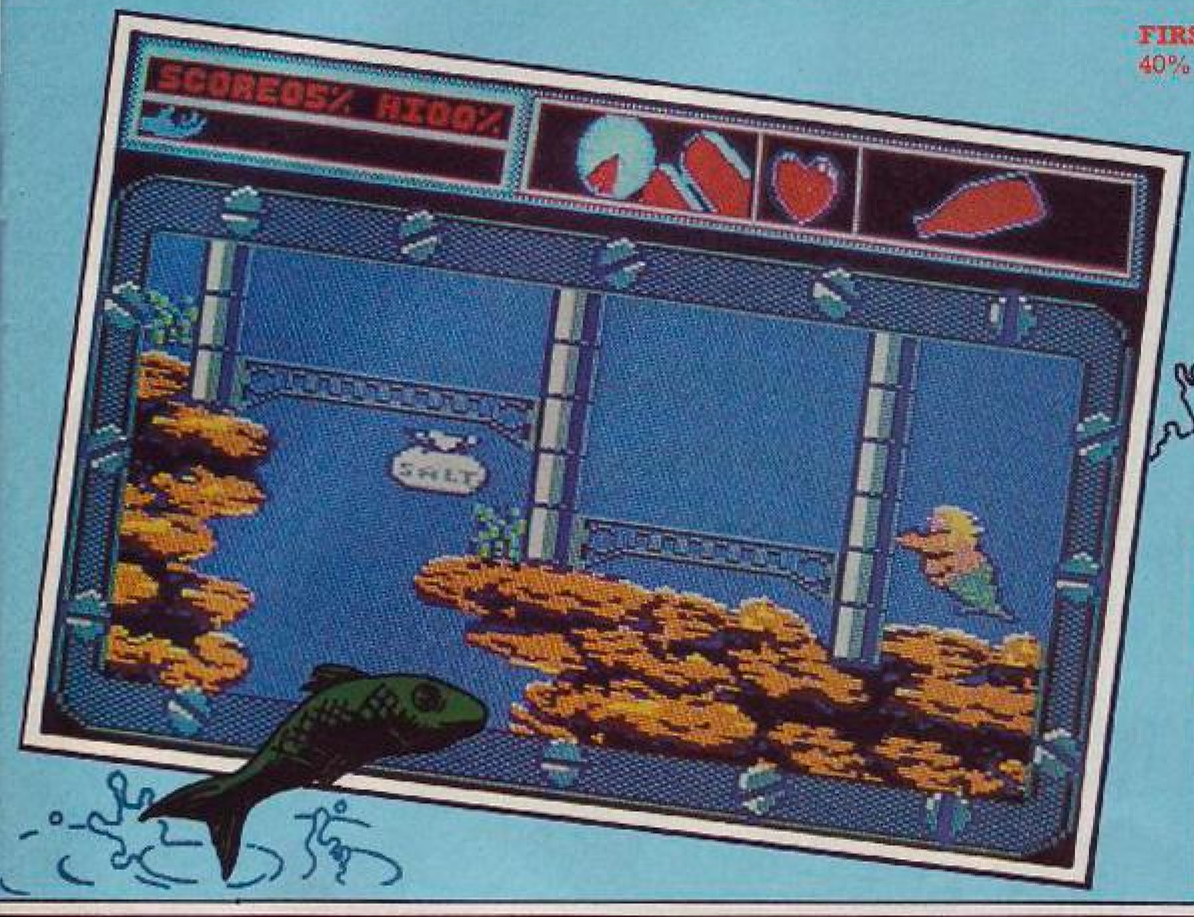
MN

GOOD NEWS

- **30 different devilish rooms.**
- **Robots and platforms present testing problems in timing and accuracy.**
- **Puzzles are tough but absorbing.**
- **Code rooms, snoozes and somersaulting are good touches.**
- **Still a classic game despite its late conversion.**

BAD NEWS

- **Graphics and animation aren't that great.**



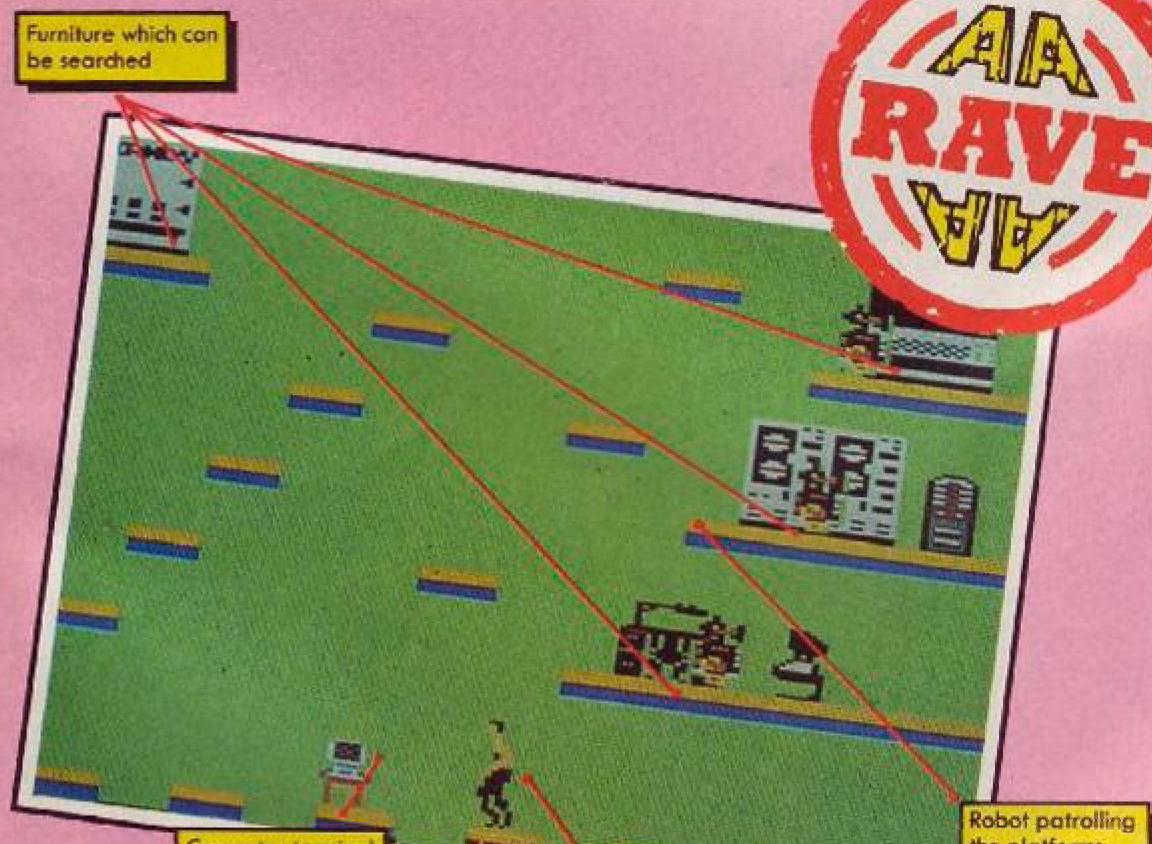
FIRST-DAY TARGET SCORE
40%



A stout lass goes skinnydipping

GREEN SCREEN VIEW
You can see okay, but the graphics are a lot less appealing.
AW

GRAPHICS	92%
SONICS	66%
GRAB FACTOR	72%
STAYING POWER	67%
A A RATING	70%



GREEN SCREEN VIEW
The puzzle pieces are colour-coded, but there's no real problem telling the colours apart – and that's what counts.
AW

FIRST-DAY TARGET SCORE
3,000

Puzzle problems

To start with you may have trouble working out exactly how to fit the puzzles together, so here are some extra tips to help you get started.

The pieces appear two at a time in a memory window and can be moved from there to another main window. At first they just look like rectangles with odd coloured shapes in them, but when fitted together they take on more uniform shapes. The key to understanding how they work is experimentation – you needn't worry about making a mess of it because once a piece of code is collected you can't lose it.

The pieces come in three colours fit together only if the same colour. You can alter the colour of any piece or flip it upside-down and back-to-front to try to get it to match. When you want to fit them together just try overlaying one on top of the other and the computer will tell you whether they fit or not. Sometimes two pieces will fit together but aren't supposed to, so that two others to fill the rest of the code are missing – but you'll find that only out by trying everything possible.

GRAPHICS	67%
SONICS	34%
GRAB FACTOR	87%
STAYING POWER	87%
A A RATING	85%

DAN DARE

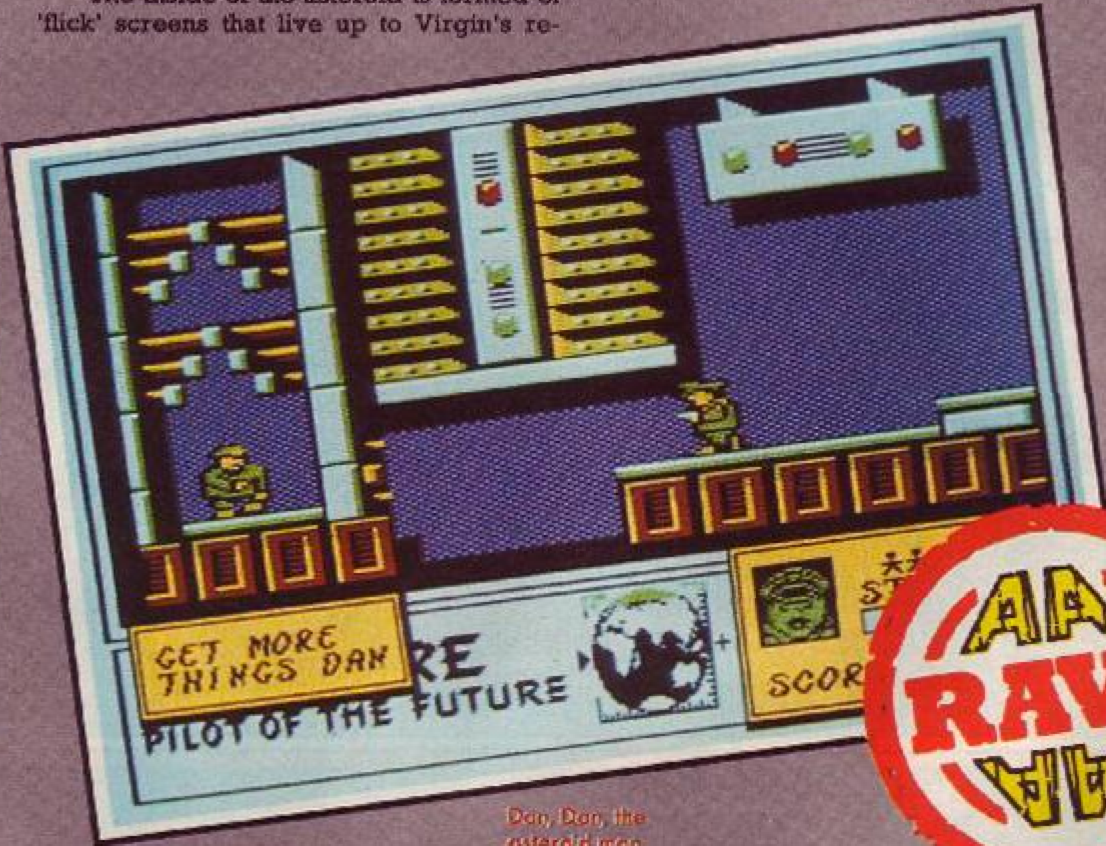
Virgin, £9.95 cass, £14.95 disk, joystick only

The comic-book hero of the 1950s has made a couple of comebacks in recent years, but this looks like being his finest hour. It follows in the footsteps of some graphically superb games from the Gang of Five at Virgin, and has a lot to live up to in terms of gameplay as well. Dan is, as ever, battling against the Mekon to save Earth from a terrible fate, and naturally you've got to give him a helping hand.

> **SECOND OPINION**
> *A bit lightweight for some people's tastes maybe, but I really like this new Gang of Five Treen-'em-up. After the complexity of* Shogun *they've gone for straightforward playability with the Pilot of the Future, and I think it pays off. Some mean problems, tons of great graphics and a host of Treens make it good addictive fun, and the speech-bubbles perfectly catch the mood of the original comic-strip.*
> **AW**

The game takes place inside an asteroid where the Mekon has imprisoned Dan's friend Digby. The asteroid itself is on a collision course with Earth, so Dan has to release Digby, set the asteroid to self-destruct and then escape with Digby in the Mekon's own rocket. That translates itself into quite a large exploration game where you have to find four building blocks to bridge a chasm leading to Digby and the self-destruct mechanism.

The inside of the asteroid is formed of 'flick' screens that live up to Virgin's record of superb design. They make particularly good use of shadow, detail and plain colours to produce a very effective



Dan, Dan, the asteroid man

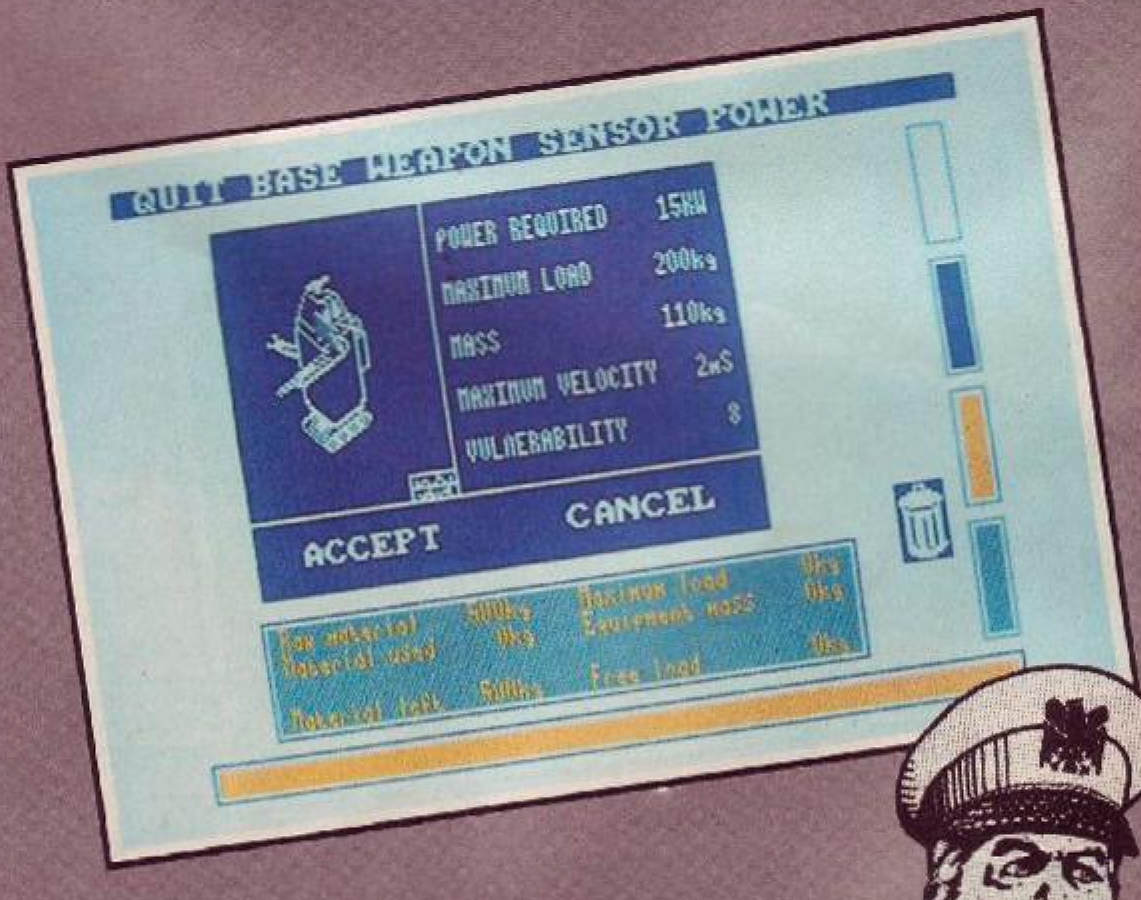
MISSION OMEGA

Mind Games/Argus Press, £9.95 cass, £12.95 disk, joystick or keys

It's always nice to see something a little bit different with plenty of originality, and this game certainly fits the bill. The only problem with it is the instructions: they seem to presume the player is psychic – they leave you very much in the dark about how to get anywhere in the game. This doesn't stop it being quite a good game but it does give you a lot of unnecessary and frustrating guesswork before you can enjoy it properly.

> **SECOND OPINION**
> *A potentially great game spoiled for a ha'pennyworth of tar. Clearer instructions and a more interesting game task and they could have had a Rave on their hands. As it is, you just end up aimlessly exploring an enormous network of corridors. Big, but pointless.*
> **AW**

You are aboard an alien ship, the *Omega*, and have to deactivate it by shutting down its four reactors. To do this you've got to build a number of robots that can then be moved around the ship to complete the task. We're told a lot about how to build the robots and control them, but not a sausage on what you're actually supposed to *do* with them. Presumably we're meant to enjoy the challenge of finding out, but personally I think Mind Games ask too much of the player who may





 No law, no war ...

look. This nicely sets up the atmosphere for the game, and the more of the asteroid you discover the more you'll like it.

In most of the rooms are the Mekon's guards: various types of static robots who shoot at you, and the Treens, the Mekon's followers, who fly around some rooms shooting and also proving fatal if they touch you. You can zap robots and Treens with a trusty laser which shoots horizontally and diagonally upwards.

THIRD OPINION

A worthy tribute here to a hero from the past. It may be just a simple arcade game, but the colour and graphics are well in keeping with the original, and the gameplay at just the right level to keep any player coming back for more.

MN

Every time Dan is touched by a Treen, falls down a hole or runs out of stamina from being shot, he loses a life and has to continue his mission from a prison cell. This is conveniently unlocked but can put Dan completely out of position if he died in a part of the asteroid that was difficult to reach.

The asteroid's other danger is the long drops that appear on many screens, all too easily fallen into. You have to learn a technique for jumping them by hitting a diagonal on the joystick. To help you get around is an extensive system of lifts, but these are what you'll spend most of the time puzzling over. In places they form a maze where you'll have to experiment and explore: where to go and how?

The four building blocks are automatically picked up when you walk into them, so you'll know when you've found one. Dan then has to take them to the chasm, where they will extend the bridge towards Digby and the self-destruct switch. Each time a block is put in place one or more doorways will open in the game, allowing you to explore further and find the next block. Once you've got all four you have only to get to the top of the Mekon's rocket and effect a spectacular escape.

The action is very compulsive at first, an effect doubled by the excellent graphics. What really gets you hooked is the opening-out of the game with each new block to reveal new and interesting sections. It shouldn't take the hardened explorer too long to crack the game, but it's a lot of fun while you're trying and has a satisfying ending to the proceedings.

BW

FIRST-DAY TARGET SCORE
10,000

G O O D N E W S

- **Superb graphics again from the GoF.**
- **Good controls once you work out the jumping.**
- **Very compulsive gameplay.**
- **Each discovery leads you into a new and interesting area.**
- **Nice ending.**

B A D N E W S

- **Just a bit too easy.**
- **Not much puzzling, just exploring.**

GREEN SCREEN VIEW

Everything's visible, and the Treens are greener than ever.

AW

GRAPHICS	53%
SONICS	86%
GRAB FACTOR	63%
STAYING POWER	75%
AA RATING	70%

spend many a frustrating hour fighting to achieve the unknown.

You have to shut down the four reactors and escape within one hour, so you can't afford to waste any of it.

The first thing is to build your robots. There are four types of base: hover, sphere, legs and tracks. Which one you choose will affect speed, carrying capability and resistance to damage. Having picked a base you need to put a weapon, sensor and power pack on it. There are four types of weapons from a laser to a missile, three sensors (visual, audio and infra-red) and three types of power pack. Each of these will affect the others in some way; experience will teach you the best robots to build. The weapons and sensors consume power, as does moving, and of course all three systems have to be added together to see if the robot can take the weight.

If that weren't enough, you have to be careful with your resources since only a limited amount of material is available.

You take your newly built robot into the ship and start your search or build some more. Throughout the game you'll probably need a mixture of the two to keep things moving. You can have up to eight robots at a time, although it's actually impractical to control that many. Once inside the ship there is a large area to search in trying to find the reactors. The robots are viewed from above in a screen window as they move through the corridors, bare except for the odd machine or barrier.

You can set the robots to search an area automatically while you're off doing something else, you can program them to search your own defined route, or you can control them manually all the way. Thus more than one robot can be usefully busy at the same time.

There are various obstacles around the ship, including electrified barriers you can switch on and off by shooting the right switch, teleporters that move you to another part of the ship and aliens, who can be shot but who can also shoot you. Robots can also be destroyed by getting a flat battery, but if left unmoved for a while they will build up their energy again.

It's certainly interesting playing around with the different robots, and there's plenty for the mappers to cope with. The gameplay becomes repetitive with all the continual searching and little else, but the main problem will be working out exactly what you're supposed to be doing. There's plenty to do, still, and this should present most intrepid explorers with a tough challenge.

BW



A robot under construction

FIRST-DAY TARGET SCORE
Deactivate a reactor

G O O D N E W S

- **A large game area to explore.**
- **Very nice in-game tune.**
- **Multiple robot control is good.**
- **No shortage of things to work out.**

B A D N E W S

- **Instructions leave you too much guesswork.**
- **Continual searching gets repetitive.**

GREEN SCREEN VIEW

The colours are fully adjustable from any point in the game, so visibilty is no problem at all.

AW

GRAPHICS	91%
SONICS	57%
GRAB FACTOR	84%
STAYING POWER	75%
AA RATING	80%

RESCUE ON FRACTALUS

Activision, £9.99 cass, £14.99 disk, joystick or keys

One of the newest techniques in programming is the use of 'fractals', one of the trendier branches of mathematics, and this is the first Amstrad game to feature them. In a nutshell, the closer you look at a shape the more detail you see, and the detail is akin to the overall shape.

> **SECOND OPINION**
>
> *Fractals are wonderful things, but it would take something altogether more drastic to justify buying this game. There's all that landscape, but nothing to do except fly round it, shoot at it and land on bits of it. You've got so little control over you're craft that there's hardly any skill involved at all.*
>
> **AW**

You'll see their effect when you start flying a ship around the planet of Fractalus, where the surface is a mass of crags, canyons and mountainous peaks. In this hostile landscape you have to rescue downed pilots and blast the enemy defences.

The mission starts at one of 16 levels with you being automatically launched from a mothership and flown down to the planet surface. Once you get there the ship switches to manual control and you can fly around for a bit admiring the graphics. The planet, coloured dull brown and yellow, is featureless apart from the crags, but it still looks good when it moves.

The task on each mission is to rescue a number of pilots from the planet surface where their ships have crashed. The number depends on the skill level, as does the level of defences you'll encounter. There are only two sorts: gun emplacements on outcrops of rock and flying saucers. All you have to do is fly around looking for pilots on your radar, land within range of them to pick them up by opening the airlock and then take off in search of another one. Meanwhile you can blast the guns and saucers that get in your way.

After a while the mothership will return and you can fire boosters to get back up to it. If you've collected all the pilots you'll get a bonus and move onto the next level, otherwise it's back down on the same level to finish off.

Beneath the view of the planet is your ship's instrument panel – you'll constantly need to refer to it. On the far left is a speed indicator which can be set at eight levels, while on the far right are readouts of range to a pilot, enemies destroyed and pilots still to rescue. The middle of the panel has an artificial horizon, altimeter, wing clearance bars, targeting scope, energy gauge and pilot scanner.

All those controls aren't needed much until you reach the higher levels of play, where night falls on the planet and you have to fly blind through the canyons. All bumps into walls, hits from guns and collisions with saucers cost you energy, but this is increased again by picking up pilots.

The process of picking up a pilot is nicely done. An animated figure runs toward you and then bangs on the airlock to be let in. There's also a surprise in store on later levels, and I guarantee you won't be ready for it.

The fractal graphics are used well and produce a convincing planet-surface effect, but the control of the ship leaves something to be desired since it is very prone to oversteer. Gameplay becomes repetitive quite quickly, but the higher levels do provide a tough enough challenge to keep you occupied.

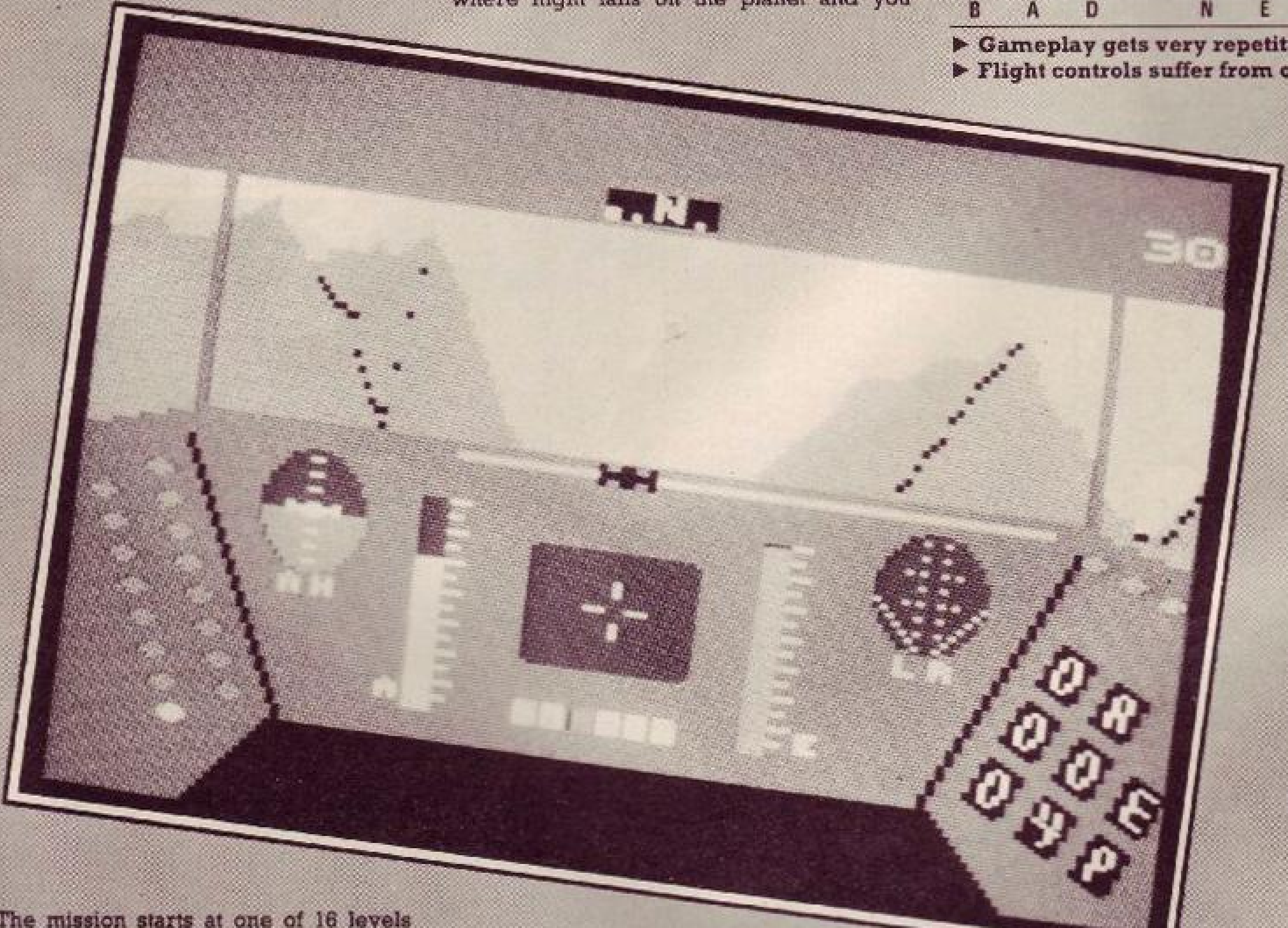
BW

G O O D   N E W S

- **Good use of fractal graphics.**
- **Pilot-collecting sequence is well done.**
- **Higher levels are quite a challenge.**
- **Night flying adds to the difficulty.**

B A D   N E W S

- **Gameplay gets very repetitive.**
- **Flight controls suffer from oversteer.**



More impressive when it moves

> **GREEN SCREEN VIEW**
>
> *It's all every bit as bright and clearly visible as it was in colour – in short, not very.*
>
> **AW**

GRAPHICS	71%
SONICS	55%
GRAB FACTOR	64%
STAYING POWER	77%
AA RATING	71%



DOOMDARK'S REVENGE

Beyond, £9.95 cass, keys only

If you thought *Lords of Midnight* was an epic game then prepare yourself for a shock when loading this because it has 6,000 locations: 2,000 more than its predecessor. It's played in exactly the same manner as *Lords* but is set in a new land with many new characters and features as well as some old ones.

The plot takes up where the last game left off with Doomdark (the bad guy) killed by Luxor (the good guy), and the ice crown (evil instrument of power) destroyed by Morkin (Luxor's son). We're treated to an audio-cassette rendition of the succeeding events from the Beyond team which is definitely not vintage Olivier and rather hard to follow at times, suffering from some awfully flowery and verbose prose. To cut a long story short, Doomdark's daughter Shareth has kidnapped Morkin, and Luxor and company have set off to rescue him from the land of Icemark.

> **SECOND OPINION**
>
> *When it first came out,* Lords of Midnight *was the biggest and most absorbing game anyone had ever seen;* Doomdark's Revenge *is better. I'm not just talking about the extra locations either. The intricacies of Icemark politics will offer even hardened* Midnight *veterans a tough new challenge. Buy it. And cancel your appointments for the next few weeks.*
>
> **AW**

You begin the game in control of three characters: Luxor the Moonprince, Rorthron the Wise and Tarithel the Fey (betrothed to Morkin). They begin in the south of the land of Icemark, Luxor and Rorthron at the Gate of Varenorn where they have to return in order to achieve any kind of victory. There are various victories that can be achieved, but Morkin must always be rescued and return with Luxor to the Gate. Other achievements add to the level of the victory, including returning Rorthron and Tarithel to the Gate, taking the Crowns of the Icemark there, returning other objects of power, and of course the destruction of Shareth herself.

The screen shows the panoramic view of the character you are controlling or one of the many information and instruction screens. Each location has eight compass-point views on which will appear the 17 types of landscape feature and other characters. This doesn't consist of just a surface view anymore, because some locations allow you to enter a vast subterranean tunnel network that connects many areas on the map. These don't have anything to look at but allow you to avoid some overland dangers, while risking some others.

If you've played *Lords* before then you'll have no trouble getting to grips with the game, discovering the new features and learning the new tactics. The newcomer should be guided reasonably well by the instructions but will take longer exploring and experimenting with things. As in *Lords* the two main tasks are to complete the quest part of the game (rescuing Morkin), and to build up a massive army for battles with any foe. However this part of the game where you deal with other characters has got more complicated.

There are five races in Icemark and none of them get on very well together – and they may not take a liking to you. It's no longer a simple matter of recruiting anyone you meet. You have to consider who's doing the recruiting and whether the character will stay with you once recruited. Each character will have an allegiance to another character and a foe, and also a list of personal characteristics. These should guide you on whom to get to approach and win over that character and how much you can trust him or her. Unsuccessful approaches to characters result in battles which can be very costly, so many games will be needed to develop a rewarding strategy.

As with *Lords* the game is split into day and night. The day is when you move the characters under your control, doing as much as you can but trying to keep them alive and strong. At night the computer controls the other characters and decides the outcome of battles. Other controls allow you to check place, battle, army and person, select a character and choose from special options.

> **THIRD OPINION**
>
> *If you are into Michael Moorcock, or any of the other great science-fantasy writers, then you'll love this. It is the nearest that computer games have got to the truly interactive book, and has every aspect of a fantasy world in it – action, adventure, politics, quests, battles: you name it, it's all here with a vengeance.*
>
> **MN**

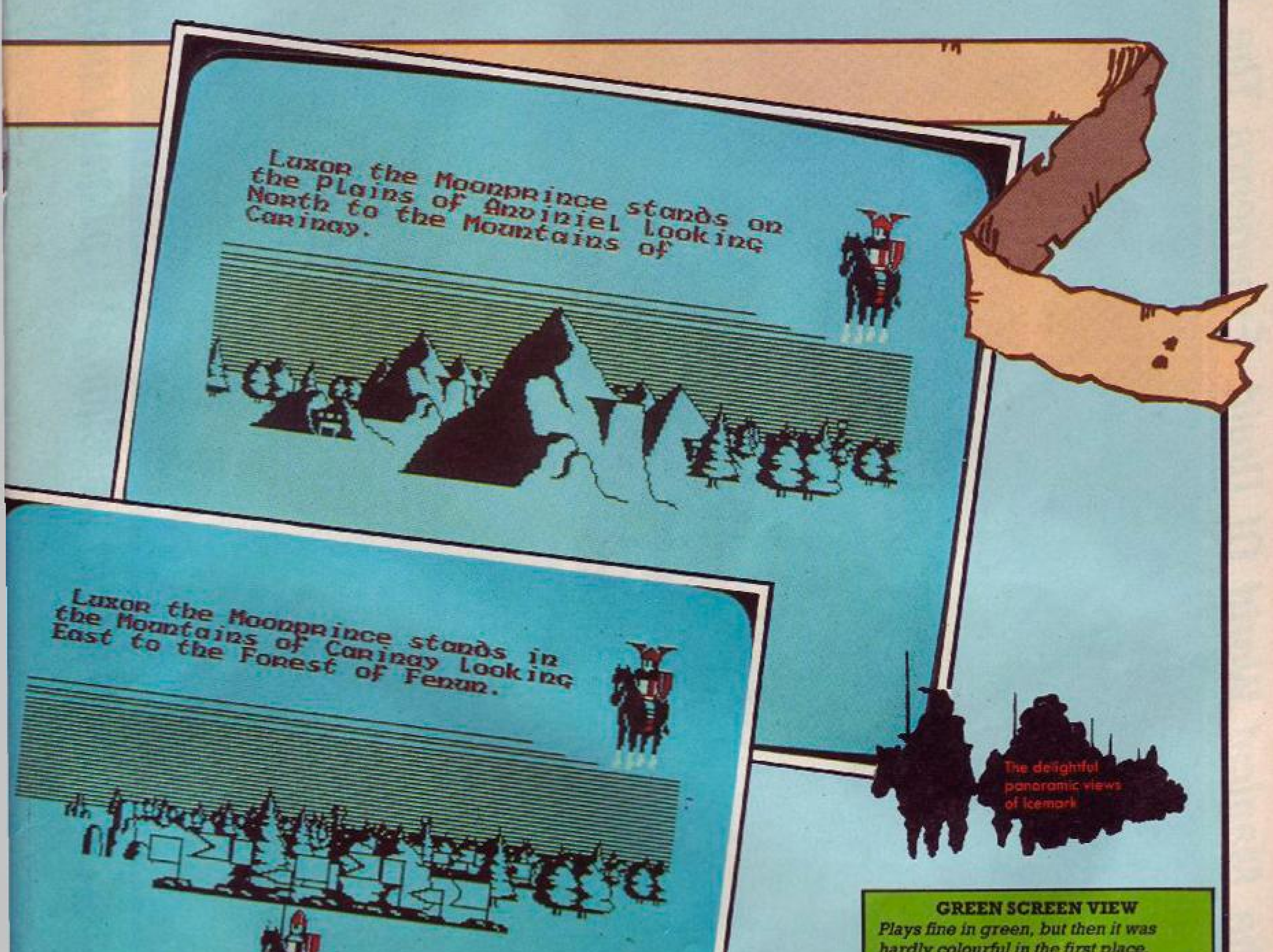
You could happily sit down and waste a whole day, if not a week, playing without ever wanting to leave the keyboard. The world created is so vast and absorbing that it presents a continual challenge and endless variation. It's much tougher to complete than *Lords* but just as rewarding to play whether you're new to the format or an old hand. There are more graphics, more locations, more characters, more objects and above all more enjoyment than ever. A true classic.

FIRST-DAY TARGET SCORE
Recruit 10 followers

BW







The delightful panoramic views of Icemark

Icemark Terrain

here are 17 types of feature on the Icemark ndscape, all with different effects and vers.

ntain: take time and energy to cross.

an offer stiff resistance or shelter and on, depending on who controls it.

low movement except for the Fey.

ive information on whereabouts of .

ce and exit to tunnels.

shelter if the people are friendly.

by a character, will prevent you rough if unfriendly.

Hut: provides shelter.

Hills: slow movement.

Fortress: offers protection or a fight.

Palace: can offer protection and access to tunnels.

Temple: possesses good and bad powers, and access to tunnels.

Gate: gives access to tunnels.

Stones: give good and bad powers.

Fountain: refreshes a weary traveller.

Icy Wastes: impenetrable.

Mist: moves across the land, blocking the view and sapping morale and strength.

GREEN SCREEN VIEW

Plays fine in green, but then it was hardly colourful in the first place.

AW

G O O D   N E W S

- **A massive 6,000 locations.**
- **Superb panoramic views.**
- **128 possible characters to control.**
- **Totally absorbing to play.**
- **Combination of adventure, war game and strategy should appeal to everyone.**
- **Tremendous variety in the possible events.**

B A D   N E W S

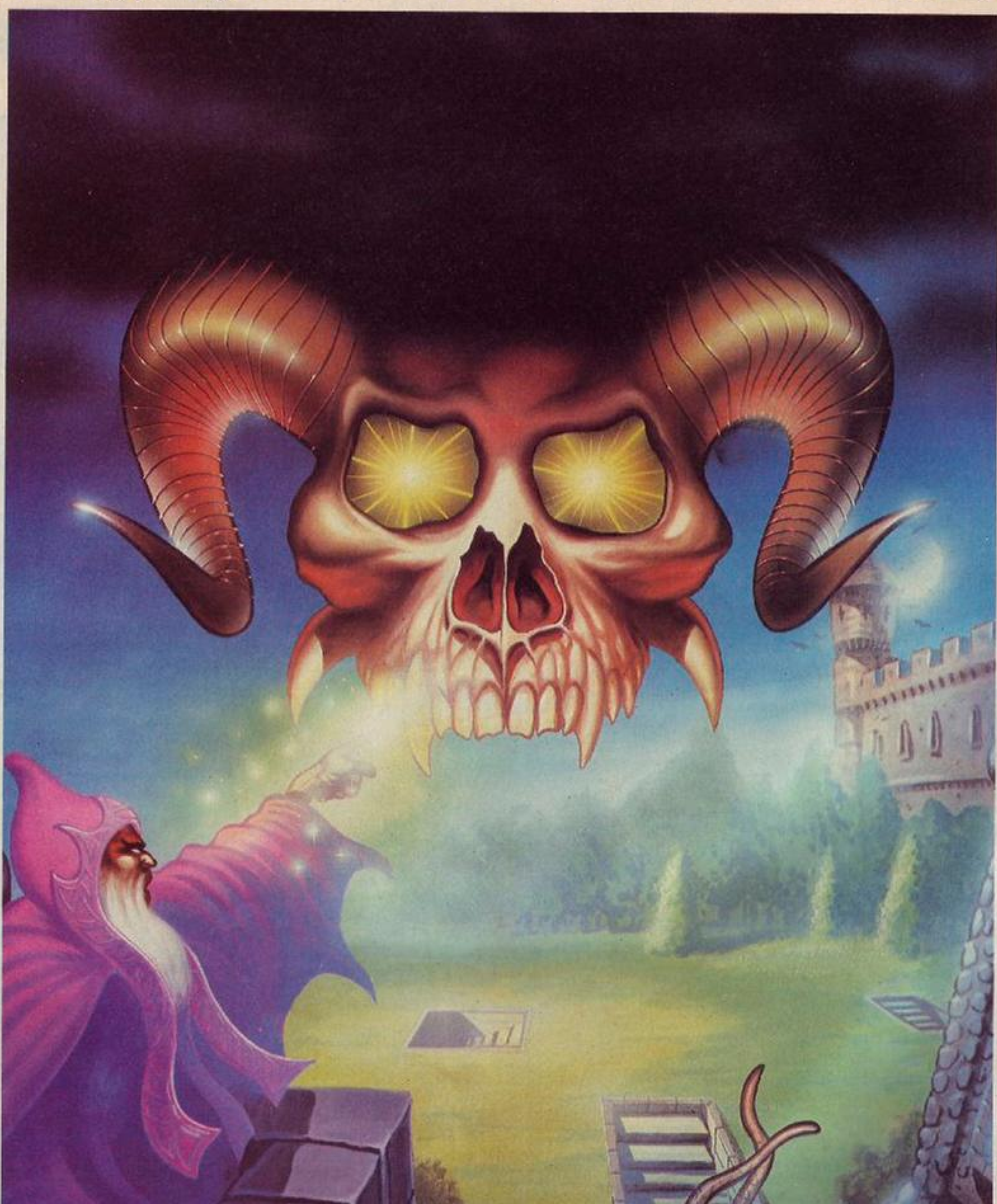
- **No in-game sound.**
- **You need a spare couple of days to play it.**

GRAPHICS	88%
SONICS	0%
GRAB FACTOR	94%
STAYING POWER	97%
A A RATING	95%

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JOHNNY REB II

Lothlorien/Argus Press, £9.95 cass, £12.95 disk, joystick or keys

Unless you were an early afficianado of Amstrad wargames or read Amscyclopedia in issue one of *AA* then you probably didn't even know there was a *Johnny Reb I*. This sequel follows along very much the same lines, except that the whole thing is a lot more polished than the original, which featured some disappointing graphics. Once again you're plunged into the American civil war where Confederate forces battle Union.

The game represents a single encounter between the Union and Confederate forces at a river crossing. The smaller Union force is trying to stop the Confederates crossing the river at a bridge and two fords. The Union at first looks hopelessly outnumbered, but as the game progresses its reinforcements arrive. If they have fought well they can counterattack and win the battle.

SECOND OPINION

If you play this as an introduction to computer wargames, you'll probably end up wondering why anyone would bother with them. There's just not enough detail to the thing, and that means there isn't the lasting interest wargames rely on.

AW

The river runs down the middle of the game map, only part of which is shown on screen at a time. There are also areas of high ground, buildings and walls that affect the behaviour of units. Each side also has four types of unit, each with its own characteristics: infantry, cavalry, artillery and supply wagons.

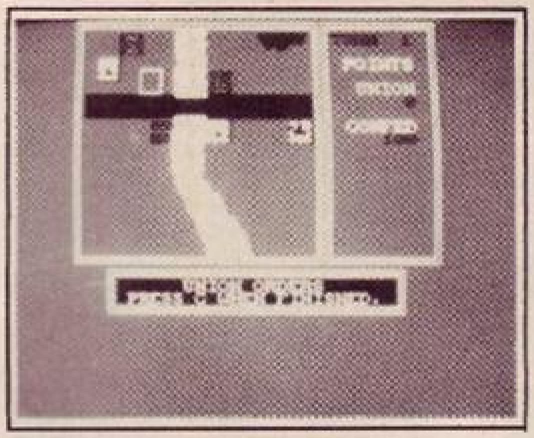
One or two players can play, and against the computer there are three skill levels. These determine whether the game is played in 'turns' or real time, how many turns there are and whether units are always visible. Either way the units end up acting out instructions in real time. Each unit can be given a number of orders, depending on its type. Infantry can advance, charge, fire or dig in. Cavalry can do the same except dig in, while artillery can't charge either. The supply wagons can do little other than move.

The outcome of skirmishes depends on several factors: terrain, morale, strength and ammo levels, how experienced the troops are, and of course the number of units they're fighting against. A unit may be routed or broken so that you cannot control it for a while, or destroyed completely if the attack is heavy enough.

The 'front end' of the program allows you to change many aspects of the game to suit you. You can build walls, fences and houses on it to help the defending Union forces, or change the composition and types of unit to help either side. You can also determine where each unit starts at the beginning of the game and at what point the Union reinforcements arrive. Most of these are only valid for the two-player games, enabling you to set up the battle how you like.

The presentation is much improved from the early Lothlorien wargames, but the essential game remains the same. Newcomers to wargames will find they can easily get into the action, while more experienced hands will want something more testing. Despite the detailed 'front end' I found the game lacked variety and depth and really needed a longer game time with more strategy involved.

BW



Oh, I wish I was in Dixie, tra-la, tra-la

GOOD NEWS

- Well presented and easy to use.
- Good range of options for altering two-player games.
- Good for a newcomer to wargames.

BAD NEWS

- Not enough depth in strategy to satisfy experienced players.
- Games are too short to need hard thought.
- Very similar gameplay to the original.

GREEN SCREEN VIEW

You can still tell your blues from your greys, so you really shouldn't have any problems.

AW

GRAPHICS	38%
SONICS	29%
GRAB FACTOR	57%
STAYING POWER	48%
AA RATING	54%

NUCLEAR DEFENCE

Amsoft, £8.95 cass, £12.95 disk, joystick or keys

Beach-Head has spawned many derivatives and this is another battle game composed of several different stages. Your task is to defend your cities against nuclear attack while letting the enemy cities and shipping have a taste of your own offensive weaponry. Not what I'd call a morally uplifting game.

The battle takes place on a single map screen, from which can be accessed three arcade screens. The map shows enemy and home cities and dots in the ocean to represent your ship and enemy fleets. You can move your dot around to engage the enemy ships or take it close enough to their cities to attack them. You can defend your home cities from any point on the map.

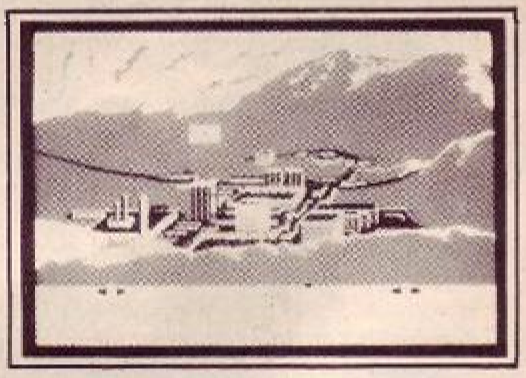
Having got within range of an enemy city you can attack it using missiles; this will prompt a launch on your own cities, but this will happen anyway if the enemy are left to their own devices. The city-attack screen shows you a city which you have to destroy with missiles from your ship at the bottom of the screen. You have to hit only two buildings and a bridge, the picture being the same for all cities. You guide the missiles in flight and have to hit the buildings quickly in order to go and defend your own city.

SECOND OPINION

You can argue among yourselves about the morality of a game that rewards the nuking of foreign cities and punishes you for torpedoing hospital ships. There's no argument over the gameplay though – it's boring, repetitive sub-Beach-Head rubbish. There's an amusing little bug which crashes the 'city attack' stage from time to time, but that's hardly a redeeming feature.

AW

If you get in range of an enemy fleet a thumping noise is heard and you can switch to the screen where you have to torpedo enemy ships. There are four of these that move across your view and are sunk by a single hit from your twin torpedo tubes that converge on the middle of the screen. All four have to be sunk, but a hospital ship must be avoided or you'll be flicked back to the map screen.



Watching over your city

When defending a city you are shown it nestling in the bottom of a valley while missiles fly in to explode in large mushroom clouds. The missiles can be intercepted by your own firing rockets, but too many misses and the city will be destroyed.

To win the game all the enemy cities and fleets have to be knocked out before your cities are. There are several skill levels at which the number of cities and fleets increases to make the job tougher.

That doesn't compensate for the total lack of variety, just playing the same three screens time after time. Each stage is very simple and although the city graphics are detailed there's little action going on. After one game you'll have seen all there is to see, the only lasting interest coming from the higher difficulty levels.

BW

FIRST-DAY TARGET SCORE
20,000

GOOD NEWS

▶ Higher levels are quite tough.

BAD NEWS

▶ Only three stages so it's very repetitive.
▶ Arcade sequences are very repetitive.
▶ Graphics are weak except for city backgrounds.

GREEN SCREEN VIEW

It's as playable in green as it's going to get, but that's not saying much.

AW

GRAPHICS	40%
SONICS	24%
GRAB FACTOR	33%
STAYING POWER	23%
AA RATING	28%

DESERT FOX

US Gold, £9.95 cass, £14.95 disk, joystick or keys

War games are much more accessible these days, a lot of the credit going to PSS for their games which incorporated arcade sequences. *Desert Fox* follows in the same footsteps but places the stress of the action very firmly on the arcade side with the strategy element less important. It's based on the North African campaign from the Second World War; you are in control of a Sherman tank.

The game map appears on a single screen containing three elements: your tank, Rommel and several Allied depots. Your task is to save all the depots by reaching them with your tank before Rommel reaches one or it falls to the enemy surrounding it. On the map screen there are four options that you can choose from: zoom, radio, air strike and move.

The zoom command lets you examine a depot to see what supplies it has and how much longer it can resist the enemy. If you obviously aren't going to reach it in time you can call up your one and only air strike to buy some time. If you lose a base you lose the game. The radio command lets you examine the route ahead for one of the five possible enemy actions. The move option takes you in the direction the radio beacon is pointing.

The five battles are convoy, tiger tank, minefield, ambush and stuka. Each one is viewed from the turret of your Sherman, which has to destroy a number of the enemy or survive for a length of time to complete each one. The convoy section puts you in control of two machineguns, as Stukas and Spitfires swoop across the screen. You have to shoot the Stukas and avoid the Spitfires using the cursors – they are automatically controlled for each gun; you just decide when to fire. You need to score high enough before the convoy passes in order to save it.

The minefield has to be negotiated as quickly by slaloming through the mines or blowing them up with the cannon. The tank has to be kept on a compass-heading course. The mines slow you down if they hit the tracks but not when they pass underneath or wide of the tank. The ambush takes you down a canyon where mortars appear on the walls and a certain number have to be shot – the longer it takes you, the more damage the tank takes.

SECOND OPINION

There are some great, smooth-moving graphics in the arcade sequences but the game as a whole is pretty silly. The ambush stage is pure Star Wars, and the tank-to-tank shoot-out with Rommel is just ridiculous. It's all good fun, but the 'strategy' element is just an excuse for those arcade sequences.

AW

The Stuka attack has the planes flying straight at you, machineguns blazing. You have to bring them down with the cannon: centre a cursor on them and fire. The planes are located by watching a small radar display; a set number have to be shot to complete the stage. The Tiger tank stage is very similar except that the tanks move across the display, occasionally pausing to fire a shell at you. Enemy shells and tanks can both be shot with the cannon, a set number being required again.

If you encounter Rommel then the action is the same as the Tiger tank stage except that one tank has to be hit eight times. This will save one of your depots without having to visit it. However Rommel can do plenty of damage while you're trying to dispose of him, so you need to have a very low damage gauge before tackling him.

The arcade sequences are well put together except for being able to 'guide' shells in flight on the tank and Stuka battles, which seems rather daft. There's not much strategy or war game involved, which is a shame because a bit more in that line and it would have had much more lasting interest.

I don't think you can call this a simulation. It's basically a combination of several other games to create five arcade sequences and a simple strategy task.

BW

FIRST DAY TARGET SCORE

Victory at grandmaster level

GOOD NEWS

▶ Arcade sequences are done well.
▶ Five sequences keeps the variety going.
▶ Good graphics on all stages.

BAD NEWS

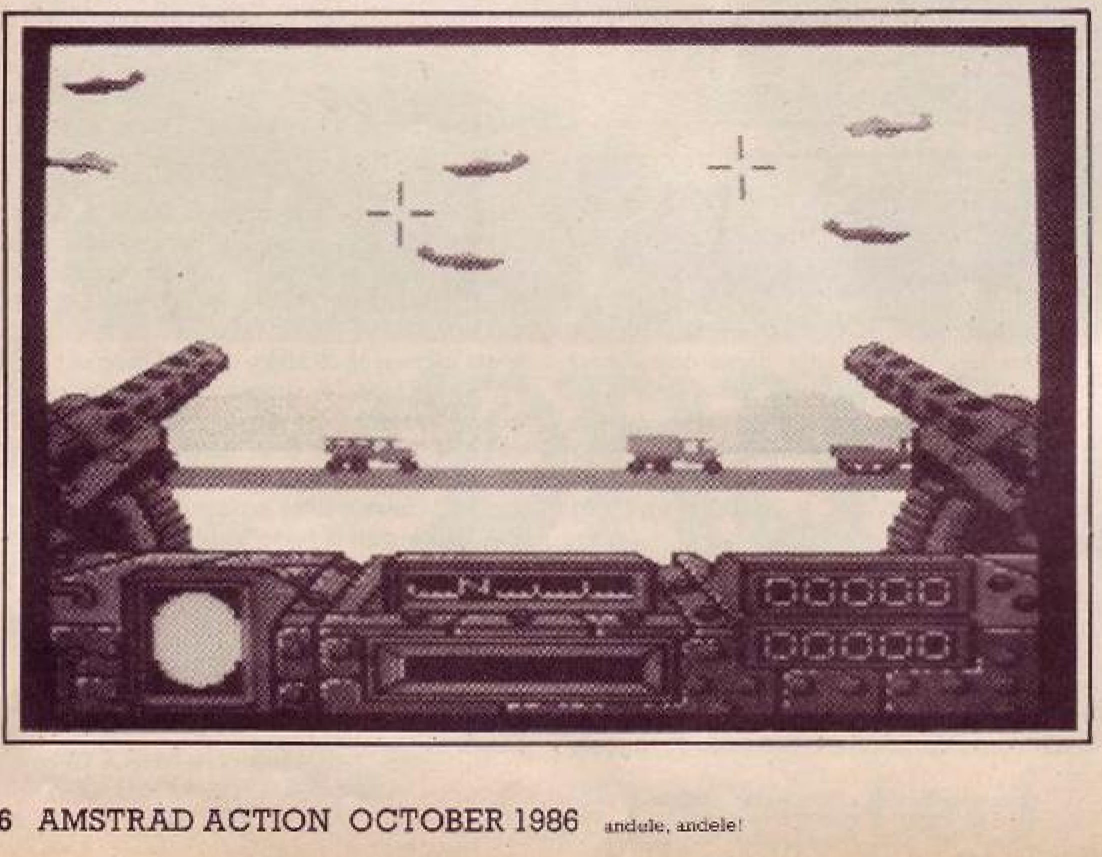
▶ Too easy to complete.
▶ Not enough strategy elements.
▶ Lightweight treatment of a serious subject.

GREEN SCREEN VIEW

Telling Spitfires and Stukas apart can be pretty difficult on the convoy stage, but otherwise there's not much to worry about.

AW

GRAPHICS	69%
SONICS	47%
GRAB FACTOR	64%
STAYING POWER	55%
AA RATING	60%





The convoy attack stage

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But it's a tall order to fill, even for the experienced



SCREEN AS SEEN ON COMMODORE 64

captain of the Psi-5 Trading Company; because, needless to say, these marauders are not going to take too kindly to any last ditch efforts to spoil their little intergallactic carnage.

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*Screen as seen on Commodore 64

POWERPLAY

Arcana, £9.95 cass, £14.95 disk, joystick or keys

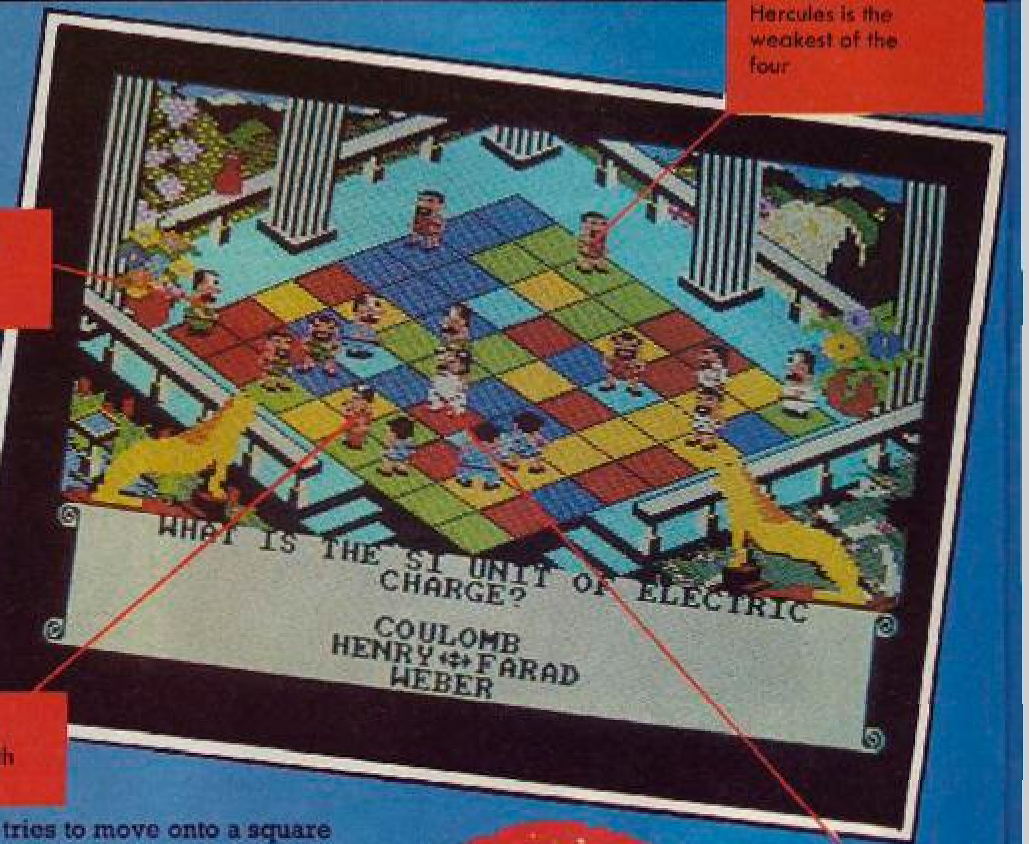
The game is subtitled 'the game of the gods', which conjures up an interesting image of Greek gods sitting around asking each other inconsequential questions like, 'What's the booby prize on the TV show *3-2-1*?' Now that's my kind of game and I suspect a lot of other people's too. It combines this quest for the trivial and absurd with a well designed and implemented game.

The action takes place on a single screen where an 8x8 grid of squares forms a courtyard on which 2, 3 or 4 players can wage a battle of wits and speed. Each player controls a team of four warriors who have to eliminate all the warriors from the other teams in order to achieve victory. The squares are in five different colours: four general question areas and special teleport squares.

Each player takes it in turn to select one of his four warriors to answer a question, the subject depending on the colour of the square he's on. Choosing the correct one of four possible answers will score the warrior some points and he will be able to move to an adjacent square. A wrong answer will pass play on to the next player.

Moving onto one of the four teleport squares will whisk a player to an unoccupied teleport square, sometimes even back to the one he started on.

As each warrior scores points for correct answers he can mutate into more powerful forms – an advantage when it comes to battle. The lowest is Hercules, going through Cyclops and Minotaur, to the strongest, a Satyr. These mutations are carried out very nicely on screen: the warrior spins round and then slows to a halt, mutating in mid-spin.



Hercules is the weakest of the four

Cyclops is third in line

The Minotaur is second in strength

The strongest mutation, a Satyr

If a warrior tries to move onto a square already occupied by an opponent's warrior, a challenge will result. The two have to try to answer a question first in order to win the battle. The loser gets demoted to a lower warrior level, and disappears completely if he was already down to a Hercules. The game continues like that until only one player's warriors are left on the grid.



The difficulty of the questions varies with the mutation level of the warrior: toughest ones for the Satyr and easiest for the Hercules. There are also four different

THE FOURTH PROTOCOL

Century/Ariolasoft, £14.95 cass and disk, keys only

We've had plenty of games of the film before but this is a game of the book, the bestseller of the same name by Frederick Forsyth. You won't need to have read the book to play the game – I hadn't – but if you have, some characters and situations may be familiar.

There are three parts to the game, which load separately, and they'll need to be completed in sequence. The three stages take you through an international espionage plot. In the first part you have to discover who has leaked some Nato documents and how. In the second and third parts you have to locate and deactivate a nuclear bomb planted somewhere in London.

The three parts of the game are all icon-driven, but you won't be able to get at the third part until after completing the first two, and the second section requires information from the first to help you find the bomb. The first game puts you at the head of CI(A), where you have to track down the source of a leak of five Nato documents while dealing with other everyday matters from the intelligence community.

The whole game is played from a single screen containing nine icons, but these allow you access to a world of intrigue and complication. The basic idea is that you already know certain information that sets you on the track of the leak, while other matters are brought to your attention as time passes. In trying to deal with problems you spend most of the time putting surveillance on people and if that produces

SECOND OPINION

I'm not crazy about Frederick Forsyth's books, but this game just might convert me. Other games have tried to get some feel of intrigue and detective work, but this is the first one I've seen that really works. You'll need your thinking-cap on for this one, and I like that in a game.

AW

some information you may be able to follow it up. The other thing that occupies a lot of your time is searching through the filing system for interesting files on people and things that may also provide important evidence.

To give you a taste of what is in store you will have to cope with a murder, a defection, paranoid employees, building security and lovesick operatives – all in a day's work. While trying to deal with that you've got to identify the source of the leak and trace it through to expose the whole network. You have to keep up your other work; otherwise the number of surveillance staff is cut And the leak has to be resolved

THIRD OPINION

An interesting twist of the adventure-game format, with the added adrenalin of a tight time limit. You really have to employ all your deductive powers here, and the novel icon/window display is used to full effect.

MN

before a time limit runs out and you get sacked from the job.

Part two follows a similar line to part one with a single icon-driven screen through which you have to locate the bomb, hidden somewhere in London. It involves you moving out of your office and using the Tube system, and you'll encounter many problems in the search for the hideout. The final part is an assault on the bomb's location using an SAS squad to eliminate the

skill levels, which change the time limit for answering a question. Maximum is 10 seconds and minimum is 2.5, which is hardly enough time even to read the question.

There are four ready-prepared question files that can be loaded in, each one consisting of over 500 questions, or you can prepare your own. They are well designed not to repeat too often but inevitably you will become familiar with a particular file.

This doesn't matter much. With two experienced and well-matched players it becomes a battle of moving best tactically, and answering questions fastest in a challenge. This can result in very long, hard-fought and exciting games.

The combination of a trivia quiz, an enjoyable game, good graphics and a question compiler make this a great game. When played by four players, be they newcomers or old hands, it can be very absorbing, competitive and above all fun. The perfect game for anyone who wants to play with computers and be sociable.

BW

SECOND OPINION

I hate computer quiz games, but this is really very good. The thought and effort that went into the game really pay off. There's no getting round repeated questions, but Arcana manage to turn them into an acceptable game feature. The graphics are great, and the board-game itself is original and fun. Good stuff!

AW

THIRD OPINION

Remember those TV ads that showed a happy family sitting around a computer screen? Well here, at last, is a game that is really like that. All the fun of Trivial Pursuit *with all the benefit that Arnold can provide as well. Great fun for all the family!*

MN

GREEN SCREEN VIEW

The actual colours of the squares aren't too easy to work out, but that's not really a problem since you can see they're different.

AW

Question Compiler

The second side of the game tape has a question compiler, allowing you to create whole new groups of questions on whatever takes your fancy. It won't let you alter the four existing ones though – after all, that would be cheating.

You can select the four colour-coded subjects into which questions are grouped – you don't have to stick to the original ones of general knowledge, sports and leisure, science and technology, history and geography. You can concoct your own for whatever you're interested in.

Each question has to be classed in one of the four difficulty levels, and three alternative answers must be given along with the correct one.

How much use you make of this facility obviously depends on you, but I'm sure people are already rubbing their hands with glee at ridiculous and humourous questions they can torment their friends with.

GOOD NEWS

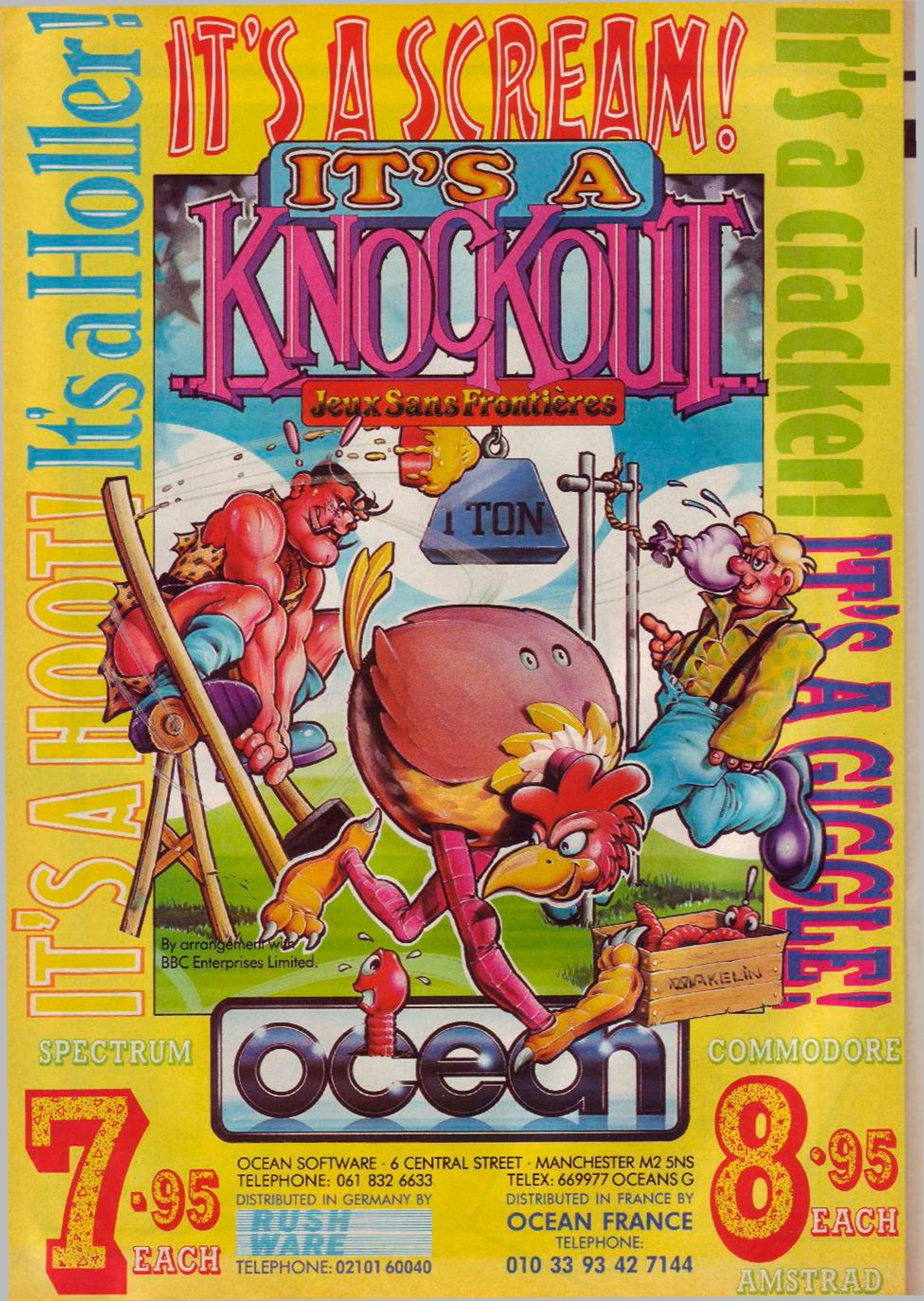
- **Good colourful graphics and appealing animation.**
- **Well thought-out and presented questions.**
- **A good multi-player game, not just a bunch of silly questions.**
- **Very competitive and enjoyable, even if you know the questions well.**
- **Over 2,000 questions and a compiler to create your own.**

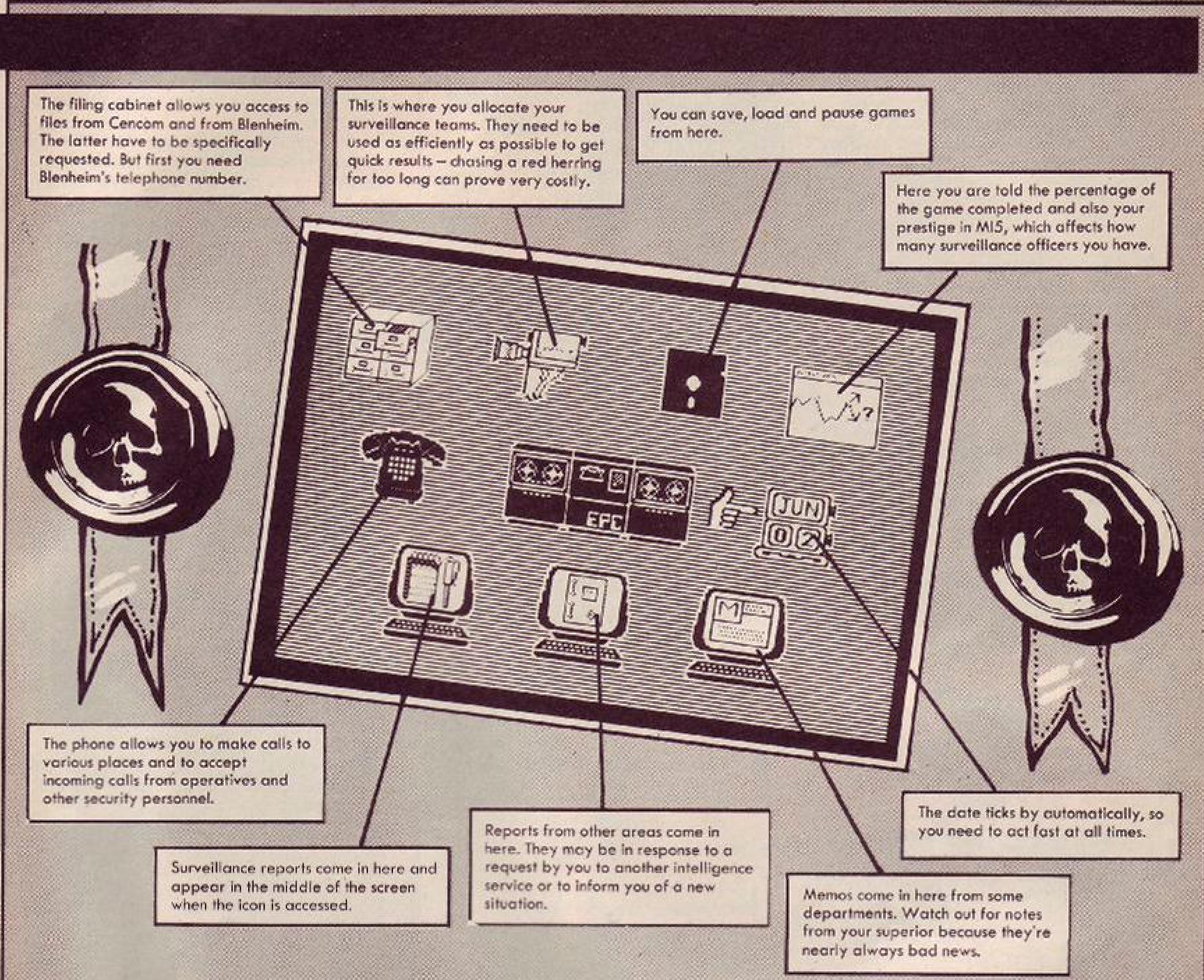
BAD NEWS

- **If you haven't got anyone to play against.**
- **You'll still need some interest in trivia games.**

GRAPHICS	77%
SONICS	54%
GRAB FACTOR	85%
STAYING POWER	92%
AA RATING	88%




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KGB men guarding it, allowing you to get in and defuse it – if you're in time, that is.

It's a very enjoyable and novel game that has plenty of depth. You'll need to do some hard thinking to get anywhere. Deduction, analysis, a little bit of luck and sudden flashes of inspiration all play their part. It won't be to everyone's taste because it can be quite tough going. But if you're looking for a challenge and a good workout for the brain cells, then this is ideal.

FIRST-DAY TARGET SCORE
50% on part one — BW

GREEN SCREEN VIEW
There's no colour anyway, so everybody's in the same boat on this one.
AW

GOOD NEWS

- ► **Three different sections to complete.**
- ► **Good use of icons and screen presentation.**
- ► **Requires plenty of hard thinking.**
- ► **No shortage of things to do – you're always under pressure.**
- ► **Very original mix of adventure, strategy and icons.**

BAD NEWS

- ► **Can be tough going at times.**
- ► **If you get really stuck it can be very frustrating.**

GRAPHICS	46%
SONICS	21%
GRAB FACTOR	87%
STAYING POWER	81%
AA RATING	84%

QABBALAH
Amsoft/Gem, £9.95 cass, joystick or keys

There are times when I really despair of software houses because of simple faults in games that are guaranteed to drive games-players up the wall. This is a case in point: a game with great graphics, an interesting (if weird) scenario, a lot of depth and complexity – and one infuriating feature that ruins it. The problem is that the objects you have to find are hidden behind things, and move about from game to game, so that you have to spend the whole time aimlessly searching for something you can't see.

The scenario of the game comes from the Hebrew faith, and as usual has very little to do with the game. This is shown up by the fact that, having built up an esoteric and philosophical scene in the instructions, they destroy it all by talking about 'nasties' (in quotes even!). Having coped with that you enter the game itself, and are presented with the superb 3D graphics which Gem do so well. The scenery is composed of detailed objects and buildings in some excellent colour schemes.

You control a purple clad man who shuffles and jumps around the picturesque landscape in search of keys for buildings and objects to help him progress through the game. He can walk behind and in front of things, often disappearing completely so

SECOND OPINION
What a waste. There was a good game here and they blew it. Why would any self respecting Arnold addict want to spend hours on end rummaging around behind a load of scenery? Granted the scenery's very pretty, and must have taken a lot of effort – but that just makes it all the more wasteful.
AW

it's very difficult to tell where he is and how to get him out of there. When he walks near the edges of the screen it scrolls to reveal more of the scenery.

There are various creatures both moving and static that drain his energy, although there is a point where he can replenish supplies. What is really wildly annoying is having to perform random searches of what is a reasonably large playing area just to find an object – never mind solve any of the game's puzzles.

THIRD OPINION

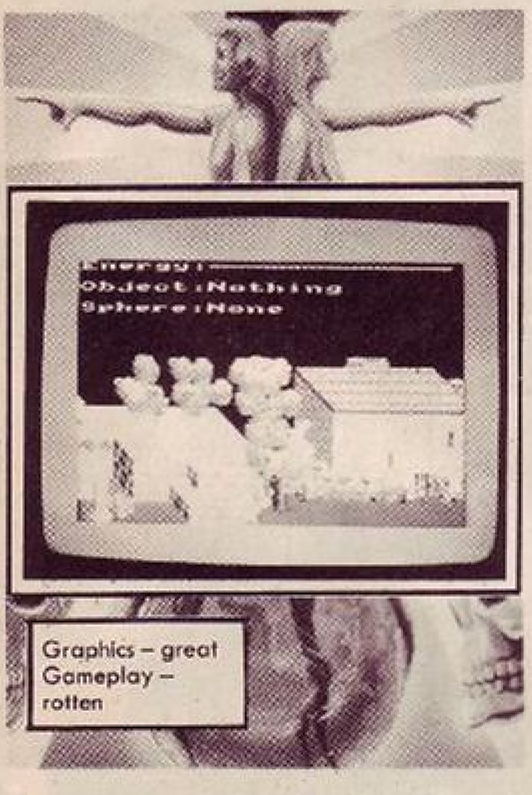
Forget the game, just wander around admiring the graphics for a while and then load up something else.

MN

You certainly can't argue with the graphics, they're excellent, and there may be a good arcade adventure waiting to get out. But wandering around searching fruitlessly for objects while not being able to see your character half the time is not my idea of fun.

BW

FIRST DAY TARGET SCORE
Find an object



Graphics – great
Gameplay – rotten

GREEN SCREEN VIEW

Can be very hard to see the edges of buildings, but lack of visibility crippled the game even in colour.

AW

G O O D N E W S

- ▶ **Excellent detailed and colourful graphics.**
- ▶ **If you can find things it might get interesting.**

B A D N E W S

- ▶ **Can't see where you are or where you're going half the time.**
- ▶ **Objects are hidden from view and moved around each new game.**

▶ **A potentially good game has been spoilt.**

GRAPHICS	88%
SONICS	62%
GRAB FACTOR	10%
STAYING POWER	35%
A A RATING	27%

STAINLESS STEEL

Mikro-Gen, £8.95 cass, £13.95 disk, joystick or keys

The 'teenage superhero' of the title is one Ricky Steel, and presumably the stainless part refers to frequent trips to the launderette with his undies. This condition is doubtless brought on by having to battle an endless horde of aliens in a four-part shoot-em-up, where he always ends up plastered all over a wall or a floor from a violent explosion.

The four zones consist of vertically scrolling landscapes on which you have to battle a variety of robot troops. In each zone the scenery, the robots and your task are different, although the gameplay is very similar for all four. The scrolling landscape occupies only a relatively small area of the screen and each stage has only one colour, although the landscape and character graphics are quite detailed.

SECOND OPINION

This game is frustrating. It has rotten collision detection and makes very poor use of colour. It sends you right back to the start of the section every time you die. Worse still, the scanner is sideways-on to the direction of play, making it extremely difficult to follow. The most frustrating thing, however, is that so much effort went to produce such a poor game.

AW

In zone 0 you must move on foot up a roadway to reach your car, Nightwind. Trying to stop you are two sorts of robot: helicopters that move up and down the road shooting at you and robots that move across the road, also shooting. Like all the robots in the game these can be dispatched with your own laser fire. As you walk along, a fuel gauge runs down and has to be replenished with fuel cells floating at intervals along the road. You have to be careful since you can shoot these as well, and running out of fuel is fatal.

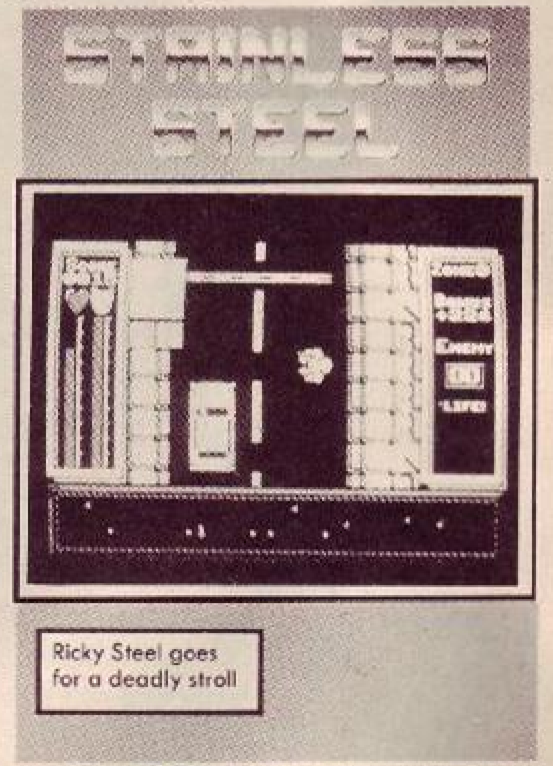
In zone 0 the only other obstacles are a couple of lines of cars behind two barriers across the road. However in zone 1 you have to drive across a desert littered with deadly obstacles, your car can fire and fly up and down, and accelerate, but is still dependant on regular fuel replenishment. Meanwhile you're harassed by helicopters, missiles and static guns. All of these have to be wiped out before going on to the next zone.

Zone 2 has you flying over a waterway on which submarines pop up from time to time. You have to bomb all the submarines and shoot fighter planes to move further on. The supply of bombs is limited. You are without the shield which in the first two zones could protect you against bullets for a short time.

In the final zone you have to kill the evil genius responsible for the whole shooting match. It is of course pretty tough as you drive through more new surroundings.

To help you in all the zones there is a scanner – very useful but awkward, because it is horizontal while the route you travel is vertical.

This is a competent shoot-em-up which will provide a tough challenge. Two things stop it being even better: despite detailed graphics and explosions the use of colour is



Ricky Steel goes for a deadly stroll

woeful, and there just aren't enough stages or variety to them for the game to really last. Not a bad buy, though, if you're looking for a skilful shoot-em-up.

BW

FIRST-DAY TARGET SCORE Get to zone 2

GREEN SCREEN VIEW

The bullets can be a bit harder to see, but the game certainly isn't any less colourful in green.

AW

G O O D N E W S

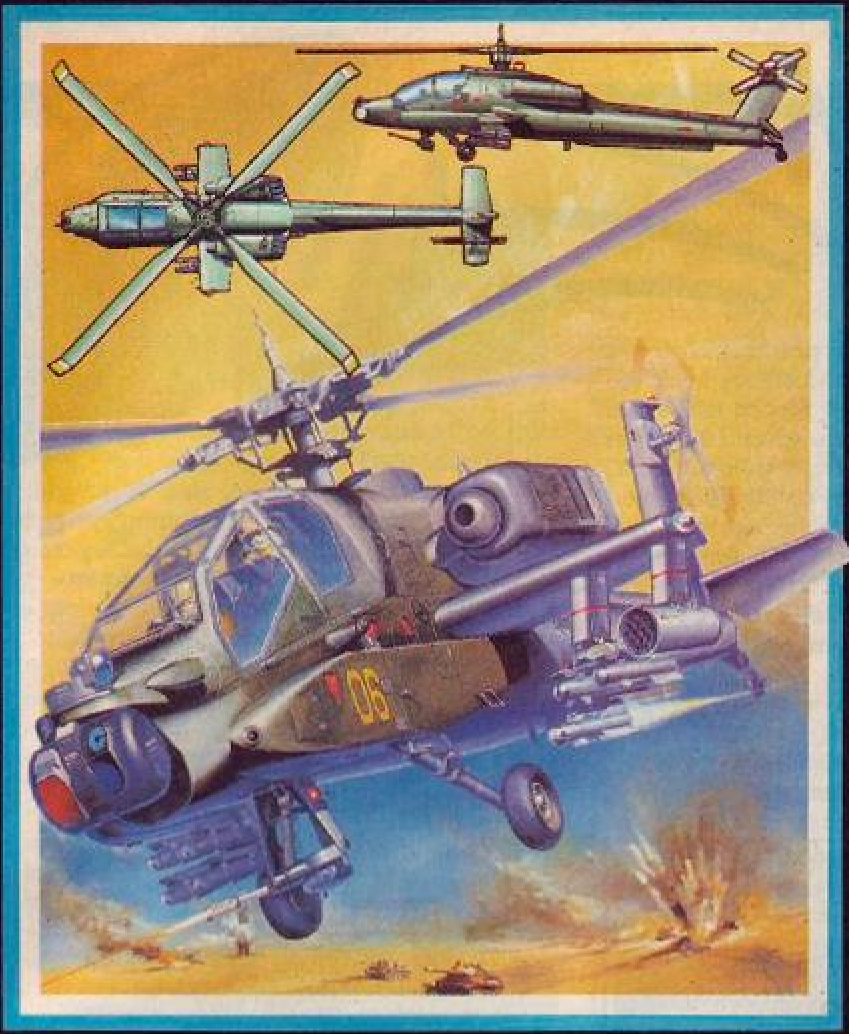
- ▶ **Detailed graphics and explosions.**
- ▶ **Tough and skilful action.**
- ▶ **Four stages requiring different skills.**
- ▶ **Forward and rear attacks mean you can't afford to relax at all.**

B A D N E W S

- ▶ **Awful lack of colour.**
- ▶ **Not enough variety in the action.**

GRAPHICS	61%
SONICS	42%
GRAB FACTOR	70%
STAYING POWER	62%
A A RATING	65%

 land of beatings



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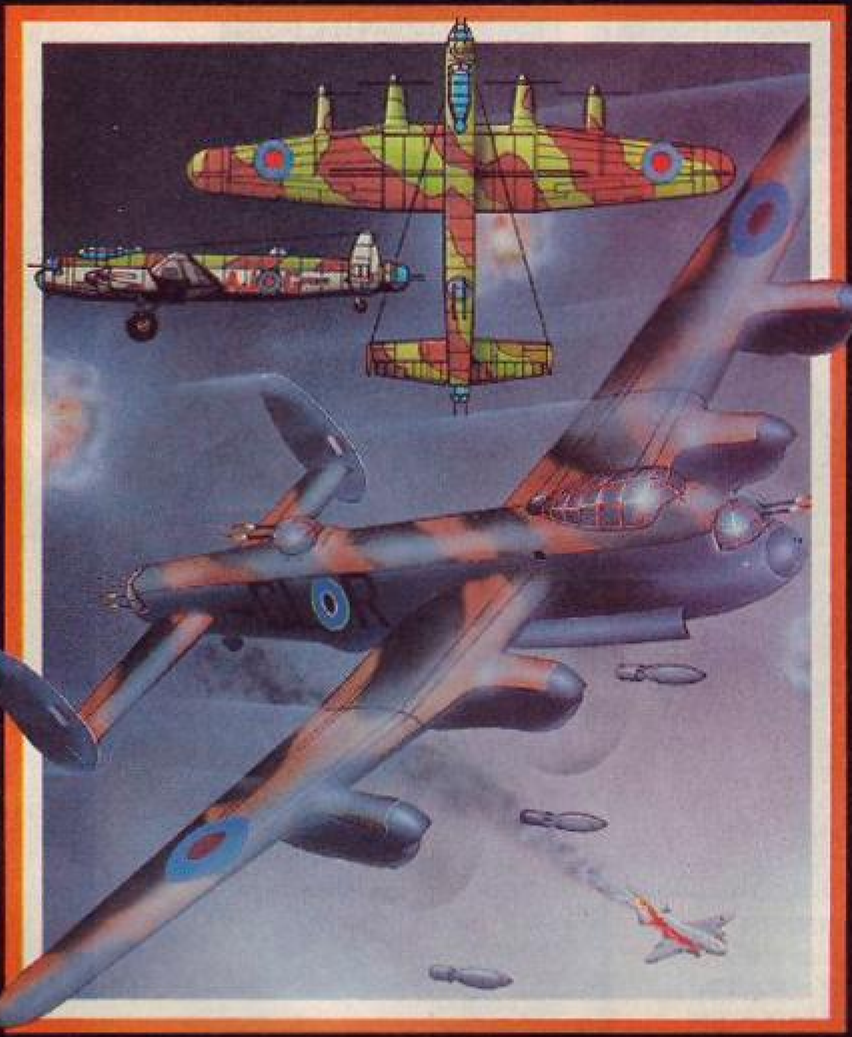
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BY D.K. MARSHALL
ADAPTED BY DARRELL D.
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INTERNATIONAL RUGBY

Artic, £7.95 cass, £12.95 disk, joystick or keys

This is the first time I've seen a Rugby Union simulation on a computer, despite the plethora of simulations for other sports. The reason for that is probably the difficulty of recreating a sport that can be as free-flowing as soccer and yet have set pieces not dissimilar to American football. Unfortunately I think this has failed to overcome those problems, ending up more like a kick-and-run soccer game than a rugby game requiring lots of intricate passing.

The matches are played on a pitch that covers three screens, viewed from the side of the ground. At either end are the posts where tries and drop-goals can be scored. When the player in possession runs off the edge of the screen, it flicks to reveal the next section of pitch. There are seven players on each side and you control the one nearest to the ball, who will have different coloured hair.

The player in possession has three basic options: run with the ball, kick it or pass it to another player. Passing is extremely difficult because of the confusion of

SECOND OPINION

If you've ever played or watched rugby you'll probably wonder what it's got to do with this latest Artic classic. Rugby, as I remember it, was a fairly complex game involving a great deal of passing and a limited amount of kicking. Artic however think it's a simple boot-em-up. No rucks, no mauls, no three-quarters to pass to – just kick the thing.

AW

players on screen, so the most effective method of making progress is to run with the ball till an opposing player closes in, and then whack it up field trying to regain possession afterwards.

Once in front of the opposition's posts you can go for a dropkick or try to go over the line for a try. If the opposition are in possession you can get the ball back by running into them or by tackling from behind. Each succesfully performed score or tackle will produce a cheer (white noise) from the crowd. After a try is scored the conversion takes. It's shown on a panel inset on the pitch where a cursor aims the ball, but the gusting wind may blow it off course.

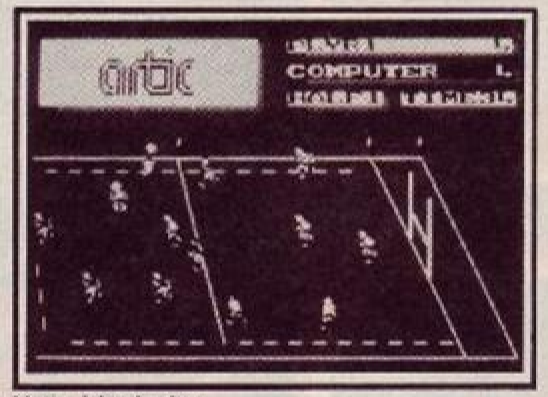
There are two set pieces in the game for when a ball goes out of play: the lineout, which stretches all the way across the pitch, and the scrum. You can't affect either of these – they happen automatically. Tt's just a matter of trying to pick up possession afterwards.

One or two players can play, and both can take part in the five-nations championship, where each team plays four matches. There are also two skill levels which affect the speed of the computer players, the harder level making them tougher to catch.

The major criticism of the game is that intricate passing manoeuvres are impossible and the game just becomes a matter of kick-and-run to score points. There are other niggles as well: the ball is round, the figures are small, the set pieces leave you with nothing to do and the screen is a mass of confusing action making it difficult to tell what's going on. Despite all that, the game can still be enjoyable if you play with two players, particularly in the championship option. However even that won't interest you for long because this just isn't rugby, it's more like a soccer game with a couple of frills.

BW

FIRST-DAY TARGET SCORE
40 points against computer



Not up'n'under but kick and run

G O O D   N E W S

- **Two-player championship can be fun.**
- **The first rugby simulation.**

B A D   N E W S

- **Plays more like soccer than rugby.**
- **No intricate passing possible.**
- **Set pieces allow no player involvement.**
- **The worst rugby simulation.**

GREEN SCREEN VIEW

No worse than the colour version, but then what could be?

AW

GRAPHICS	31%
SONICS	51%
GRAB FACTOR	38%
STAYING POWER	32%
A A RATING	34%

SPEED KING

Mastertronic, £1.99 cass, joystick or keys

One of Mastertronic's all-time best-selling titles was *Formula One Simulator*, which these days looks outdated. This new offering takes you out of the car and perches you on a high-performance motorbike, where you can ride against 19 computer riders on 10 different grand-prix circuits.

You begin by choosing which track to race on. Each has different characteristics: Silverstone with its long sweeping turns and straights is a very fast course, while the Spanish track is full of twists and turns to slow you down. You'll naturally want to practice on your chosen track before going into a full race. You can do that for as long as you like, trying to set a fast time and learning all the bends and how fast you can take them.

SECOND OPINION

It's not the best racing simulator I've ever seen, but it is a lot of fun. The opposition can be very easy to get past even on champion level, but they still represent quite a challenge on the slower tracks. I wouldn't have minded some sort of rear-view mirror, but what do you expect for £1.99?

AW

The bike has six gears and a top speed of 260 mph. You won't get up to that on any but the longest straights, but most races will be spent in fourth or fifth gear at between 100 and 175 mph if you're going to do well. When taking corners you lean the bike over and try to gauge the speed so that you get round as fast as possible but without falling off. Too fast and you'll skid onto the grass verge and crash.

When you feel ready for a race you have to set one of the three difficulty levels and decide whether to have 2, 4 or 6 laps. You begin at the back of the pack, who stay in more or less line-astern formation all round the track. This can make them tough to get past on corners. If you hit them you crash, losing precious time. Certainly on the faster tracks you should quickly be able to beat them, but on the tighter circuits they are much tougher to beat.

When you're good enough the races become more of a time trial than a competition against the 19 computer riders. A lap record is kept for each circuit. This means players can compete on a time basis even if not at the same time, and seek to set the best total race time for a circuit.

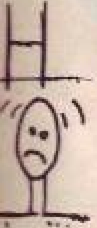
The driving sequence is well done: some good use of colour and a suitably

G O O D   N E W S

- **10 different tracks to blast round.**
- **Good graphics and use of colour.**
- **Constant challenge against the clock.**
- **Miles better than *Formula 1 Simulator.***

B A D   N E W S

- **Computer riders aren't very competitive.**
- **Beating the clock may not be enough to keep you hooked.**



 Amstradians wouldn't give a ...

INTERNATIONAL KARATE

Endurance Games, £7.95 cass, £12.95 disk, joystick or keys

The software house is aptly named in this case. Not only have we had to endure months of wait for the game but now we have to endure two men beating the tar out of each other on screen again. To say that the combat-game motif had been overdone a little would be an understatement, and I for one am fed up to the back teeth with them – particularly when, like this one, they have nothing new to offer.

Like most previous combat games it's a two-dimensional encounter, the two fighters having one of six famous landmarks as the backdrop to their bone-crunching activities. There are 16 possible moves, 8 with the fire button pressed and 8 without, but you probably won't end up using all of them. One or two players can play, the winner of a two-player game going on to face a computer opponent.

The six computer opponents appear against different backgrounds and to get through to the next one you have to defeat a fighter twice in three bouts. Each bout is 60 seconds long, in which time you have to gain two points (yin & yang symbols) by felling your opponent. The judge will award half or full points and the corresponding score. At the end of each bout the time remaining is added to the victor's score.

If no one gets two points then the fighter with the most points wins; a tie on points results in a rematch. If you can win two bouts then you progress to the next fighter, who is of course tougher than the previous one and equally intent on pulping your head. In between fighters is a bonus stage where you smash tiles but this just involves hitting a key at the right time to smash as many as possible for a bonus score – not much skill in that.

Get past all six and you become the international karate champion. But it's more likely that you'll end up with your face in the dirt and multiple fractures all over your body.

SECOND OPINION

Finally something new in the world of combat games: pretty bits of scenery in the background! What d'you mean, it's boring? Okay, so the gameplay is like every other combat game you've ever seen only not quite so good. Fair enough, the graphics of the fighters are small and overlap confusingly – but at least they beat each other senseless in front of some great backdrops, and that's what counts.

AW

The computer fighters are fast. If they decide to perform a killer of a move there's not a lot you can do about it. They're impossible to anticipate and you'll need superhuman reflexes to respond to their attacks. That means the only way to beat one is to devise your own gameplan and stick to it, hoping that you're quick enough and get in the right place to finish him off. The best way is to get familiar with a few moves that you can use automatically for defence and attack and stick to those – trying to use all 16 is bound to end in disaster.

The animation is good, although everything happens so fast that you won't have time to see much. The landmarks are drawn all right but have nothing to do with the game. The gameplay itself is just like *Fist* or *Sai Combat*, only quite a bit faster. The computer opponents are beatable but it's incredibly frustrating to have them nip in an attack that you hardly have time to see, never mind do anything about.





Kicking it out in Sydney harbour

There's nothing new here so it's only really of interest to the newcomer to combat games (but they'll find this one tough) or the combat addict looking for a very tough game.

BW

GOOD NEWS

- Good backgrounds and animation.
- Six very tough opponents.
- Nice soundtrack accompanies the fighting.

BAD NEWS

- How unoriginal can you get?
- Computer opponents are just too fast and deadly at times.
- You'll probably end up smashing the desk in two in frustration.

GREEN SCREEN VIEW

Can get a bit confusing trying to work out which one your fighter is, but this only adds interest to the gameplay.

AW

GRAPHICS	62%
SONICS	78%
GRAB FACTOR	54%
STAYING POWER	52%
A A RATING	53%

straining engine noise. The opponents aren't very realistic in their behaviour but your bike is great to control and responds well. Not quite enough competitiveness in races but still an excellent game for the price.

BW

FIRST-DAY TARGET SCORE

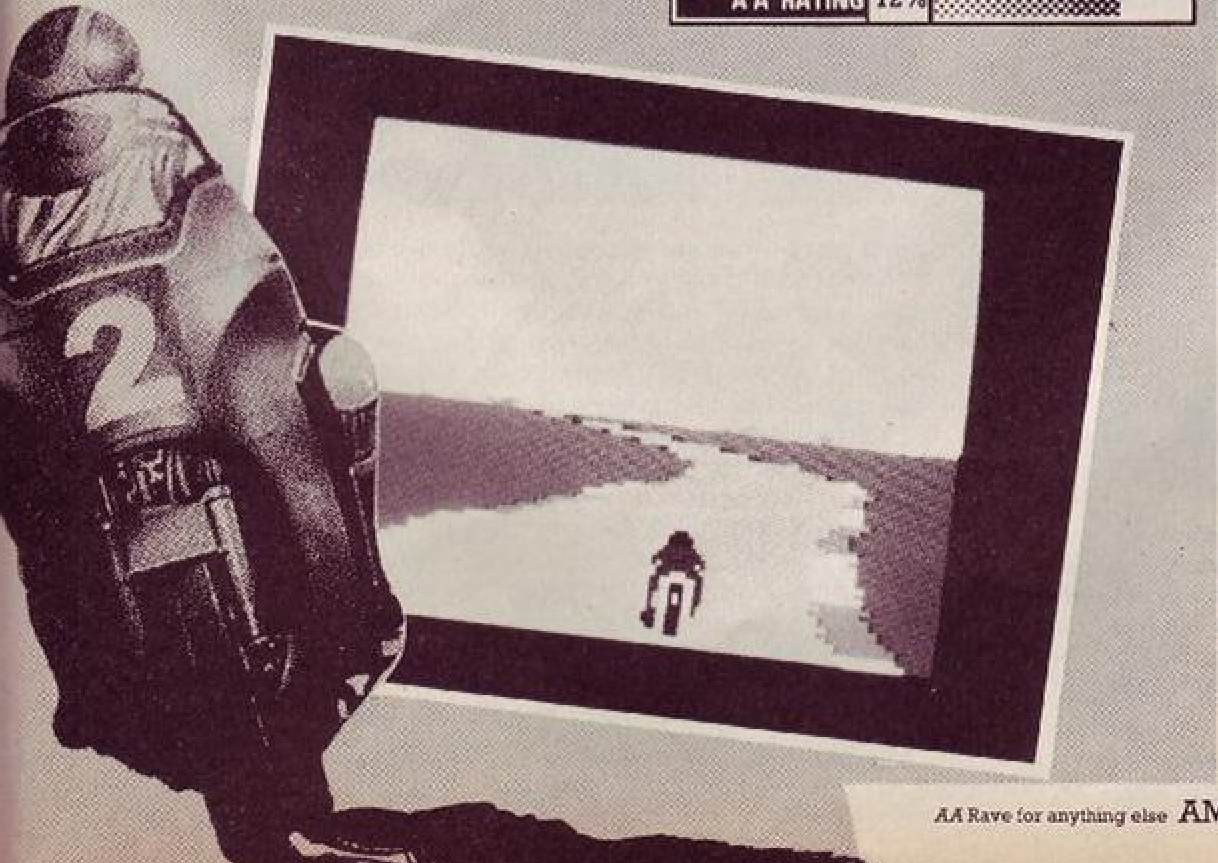
Under-60-second lap at Silverstone

GREEN SCREEN VIEW

Loses a lot of its appeal, but it's still every bit as playable.

AW

GRAPHICS	60%
SONICS	62%
GRAB FACTOR	74%
STAYING POWER	60%
A A RATING	72%



ADVENTURE



Much has happened since we first looked at MUD a couple of months ago. Now the Cowled Crusader can bring you right up to date with an inside glimpse of the country's most famous interactive adventure. The Pilg took a slow train to distant Ealing, where he met Tij the Arch-Wizard and Sputnik the Wizard and entered the Inner Sanctum of the MUD empire: a small air-conditioned room full of monstrous computers, half-gigabyte disks and man-sized printers...

Pilgrim

MUD is actually part of a small empire of British Telecom companies set up to expoit the commercial opportunities of new technology. Pin-striped businessmen may thrill to the sound of Hotline (a set-up that provides up-to-date company info and news on-line), others may wax lyrical about Cabletext, or Prestel, but the *Multi-User Dungeon* is very dear to BT's heart, and interactive games are an essential part of its business strategy.

The reason is simple. Research indicates that 30% of computer owners will end up buying a modem – and in the UK alone that means around a million modem users. Many of them will want to play a game that you can't copy, that costs you money, and of course that compels you to use the phone. And then there are plans for a French *MUD*, and perhaps a German *MUD*, and so on and so on. So if you wonder why rich BT is bothering with the likes of us adventurers then wonder again: money!

Right now there about 450 active *MUD* users – hardly big business – but the customer base is growing at about 20 a week, and to encourage it there's been a revolution in price. The starter pack, which brings you all the info you need plus three hours worth of credits, now costs only £4.95. That's got to be excellent value for anyone with a modem, and for anyone without one it's got to be a good reason to rush out and buy one. And if you're prepared to fork out up to £150 for 300 hours worth of credit then your connect charges are going to be right down to 50p an hour.

Even when you add your phone bills (50p per hour at local rates), the Pilg's main reservation expressed a couple of months back about price has been removed at one stroke. *MUD* still isn't cheap, but it is affordable. And with the growing use of modems it is bound to grow rapidly in size from now on.

It's even more affordable because the other major change the Pilg noticed on his visit to Ealing was the way the system has speeded up. The infuriating pauses are very much reduced – so not only are the bills less but also you get in more actual play-time for your money.

'In the end,' says Tij the Arch-Wizard, who hosted my visit to Ealing, 'the speed problem was narrowed down to a small section of the code, but when you're dealing with 60,000 lines of Pascal finding that small section can be a problem! We hired a consultant, and he located the offending bit in a matter of hours, as a result of which the speed has improved no end.'

This improvement in speed has really sharpened up the game, in the Pilg's opinion. When we last touched on the subject, speed (or the lack of it) was one of my main objections. Together with the lower cost, I reckon this improvement is crucial in making *MUD* an attractive proposition for adventurers. So perhaps it's just as well that the current set-up can handle up to 100 players simultaneously, though currently there are likely to be only about a quarter of that number on-line at any one time.

Not that that's a bad thing, since even with 800 locations a world can get just a bit too crowded. Fighting's fun but you don't want a savage encounter around every corner. Half the problem with running *MUD*, it seems, is paying attention to this sort of problem and constantly adapting the game to suit the number and nature of the players. And this, it turned out, was a keynote in my *MUD* education at Ealing – the problems of running a multi-user game are enormous.

First, you've got the problem of bad behaviour. While we were seated at our beautiful DEC scrolling terminals – no squinting at the home telly for BT's Mudders – the following message flashed up on the screen: 'A male voice in the distance shouts, "Aw shit!"'

Immediately my companions Sputnik and Tij leaped into action. Tij, as an Arch-Wizard, has a character profile that includes a flag called 'God'. I kid you not – his powers within the game are almost limitless. Within seconds the offender's playing name (or 'persona') was up on the screen together with his history, his account number and all other necessary inform-



The places you can travel to with your modem are many and varied. Apart from Compunet *MUD* (an earlier version of the game still available to Commodore owners), Essex *MUD* (the original, still running sporadically on Essex University's main-frame) and other pretenders, there's also *Shades*, the new Micronet interactive game. Stay tuned for next month's investigation ...

ation. 'I can stop someone playing – permanently, if I want to,' says Arch-Wiz Tij. He wouldn't hesitate to use that power if someone abused his or her position as a *MUD* player, though in this particular instance the offending player was simply warned off.

Saying naughty words is one thing, but undermining the structure of the game is of course far more serious. Currently there are 12 wizards. Each has the power to come and go as he pleases, to put the finger of death on another players, to snoop on them, and generally to offer them help or hindrance as their whims dictate. The possibilities for abuse of this power are endless, so Tij and Sputnik along with other BT staff spend a lot of time educating the wizards in the art of good behaviour.

The real problem with the game, however, is its size. With the hardware being upgraded to allow 200 simultaneous players, won't things get a little crowded? And what happens if you get too many wizards – will they roam the Land together putting the finger of death on all the poor mortals like you and me?

'Other companies have grossly underestimated the difficulty of running a multi-user game,' says Sputnik. 'It's not just a question of writing the game, it's a problem of maintaining it. *Megawars* in the States had to completely reset the characters of the players every four weeks until people learnt good habits.'

On BT *MUD*, for the moment at any rate, the efforts of Tij and his pals have shown remarkable results. During my time on the system I was impressed by the courtesy of wizards towards one another and other players and their willingness to help beginners. As for overcrowding, 'When it does get too crowded,' says Tij, 'we'll split the game into two or else expand it.' There are already another 200 locations to add to the current 800, just waiting on disk ready for use when needed.

In fact playing *MUD* at this stage of its development is a great pleasure. Elsewhere on the page I've included a few excerpts from the game as it was played in the company of Tij and Sputnik, who were kind enough to show me what life is like for a wizard.

Since becoming a wizard is the aim of the game, you may wonder whether it's really worth all that effort and investment. My feeling is that it certainly is – how else can you spend an evening hobnobbing with your pals when the fancy takes you, snooping on complete strangers, and tally-hoing across one of the largest interactive-game universes? Believe me, life as a wizard is the nearest I've seen to complete interactive wish-fulfilment for some time.

And there's more to come. Along with improved speed and lower cost have come some ambitious plans for the future. Intelligent mobiles are on the horizon, bringing to the game the sort of possibilities that adventure programmers have tried to exploit ever since Thorin first started singing about gold in *The Hobbit*. IMs are computer-controlled beasties and beauties who can wander from place to place, manipulate objects and generally behave (or misbehave) in an apparently autonomous way. You'll be able to speak to them, fight with them and even tickle them!

In fact tickling in *MUD* seems to be all the rage at the moment. It's a good example of the way the game can change from one day to the next. 'It's just a fun interaction,' says Tij the A-Wiz, 'you can also hug and kiss.'

Hmmmm ... you can also have some other rather odd things happen to you. 'Your sex has magically changed to female,' reported the game at one point while I was playing.

Ah, these wizards – always game for a laugh. There's no doubt, however, that with a total vocab of just over 1,000 words (and expanding), 800 locations, and hugging, kissing, and tickling, there's plenty to keep you occupied. Unlike any off-the-shelf adventure game, this one is always changing.

'The problem with *MUD*,' complained Sputnik, 'is that we've had to do all the trail-blazing.' You can understand his grievance. The system has had to sort out all the problems associated with on-line games and, occasionally, take the media flak while they did so.

However, sitting there in the centre of operations, watching the modems flicker as the players log on, it was easy to see why a spokesman for BT was able to claim that *MUD* 'is potentially as big as the satellite and cable industries we're always hearing about – both are poised for take-off.' ■

■

The speed's better, the cost is down, and that removes the two main criticisms usually levelled at *MUD*. Now that we can seriously consider playing it, how about getting a closer look at what goes on?

1 Getting started
Here you are in the Elizabethan Tea-Room, the very first location in the game that all Mudders enter each time they start playing. You can't leave it unless you perform one simple action. Be genteel, and all will be well

```
ELIZABETHAN TEAROOM.
THIS COSY, TUDOR PERIOD ROOM IS WHERE ALL MUD ADVENTURES START.
ITS EXPOSED OAK BEAMS AND SOFT, VELVET-COVERED FURNITURE PROVIDE
IT WITH THE IDEAL ATMOSPHERE IN WHICH TO RELAX BEFORE VENTURING
OUT INTO THAT STRANGE, TIMELESS REALM. A SENSE OF DECENCY AND
DECORUM PREVAILS, AND A FEELING OF KINSHIP WITH THOSE WHO, LIKE
YOU, SEEK THEIR DESTINY IN THE LAND. WHEN YOU ARE SUITABLY
COMPOSED, YOU MAY ENTER THAT DOMAIN BY STEPPING THROUGH AN
OPENING TO THE NORTH; HOWEVER, YOU ARE WELCOME TO STAY HERE FOR
AS LONG AS YOU LIKE, SIPPING TEA AND WATCHING THE WORLD GO BY.
GRANNY THE HEROINE IS HERE.
DORK THE GUEST IS HERE.
```

2 Out and About
The location descriptions in *MUD* are often very lengthy – after all they've got about 8 megabytes of core memory to play with! There are currently 800 locations with another 200 on disk ready to be entered into the game when needed

```
BADLY-PAVED ROAD.
YOU FIND YOURSELF ON A BADLY-PAVED ROAD, WHICH CONTINUES TO THE
EAST AND WEST. NORTH AND NORTHEAST ARE THE LOWER REGIONS OF A
MOUNTAIN, WHICH RISES UP BEYOND THE CLOUDS. SOUTHEAST IS A YARD,
BELONGING TO AN INN WHICH CAN BE SEEN JUST BEYOND IT. SOUTH IS A
BRIAR PATCH, AND SOUTHWEST THE FOOTHILLS OF A MORE IMPRESSIVE
MOUNTAIN. NORTHWEST IS A DEEP VALLEY, WHOSE WESTERN SLOPES RISE
UP TO THE FOOTHILLS OF A MOUNTAIN MORE MAJESTIC STILL. THE VIEW
IS QUITE BREATHTAKING.
```

3 Making friends
A certain Duergar (elsewhere in the game) has sent me a message asking if I want to team up. Naturally, being a trusting Piig, I reply in the affirmative. If only I'd known!

```
BEATEN TRACK.
YOU'RE ON A ROUGH EAST - WEST TRACK WITH A DENSE FOREST TO THE
NORTH AND PASTURE TO THE SOUTH.
DUERGAR TELLS YOU "WANNA TEAM UP?"
*
DUERGAR "WHY NOT? WHERE ARE YOU?
*
DUERGAR TELLS YOU "EAST PASTURE! (BACK OF HOUSE!"
*
XYZZY THE WARRIOR HAS JUST ARRIVED.
*
DUERGAR "HANG ON THERE, I WILL COME TO YOU (HOPEFULLY)
```

4 ... And in trouble!
Who's this swine Duergar?! He asks me round to team up and then has me coughing blood! Doesn't he know who I am?! Obviously not! Moral: trust no-one

```
DUERGAR SAYS "HI".
*
"HI I MADE IT"
*
DUERGAR IS ABOUT TO ATTACK YOU.
*
THE VIOLENCE OF A FLUKE PIECE OF FIGHTING BY DUERGAR MAKES UYOU
COUGH BLOOD.
STAMINA=43/56.
YOU INEPTLY STRIKE DUERGAR WITH AN ENERGETIC ATTACK.
*
DUERGAR TELLS YOU "HAHAH"
```

5 Danger! Wizard at work!
If you make a 'wish' it will be transmitted to the wizards in the game for consideration. Sometimes, however, you'll find they interfere without your asking

```
YOU HAVE SUDDENLY AND MAGICALLY BECOME CRIPPLED!
*
GRANNY THE HEROINE HAS JUST LEFT.
*
YOU HAVE SUDDENLY AND MAGICALLY REGAINED YOUR ABILITY TO WALK!
```

6 Treats as well as tricks
Yes, life can be tricky with wizards around! But they're not always so inconsiderate: witness this exchange where the Cowled Crusader needed a spot of light on the proceedings

```
IT'S TOO DARK FOR YOU TO SEE ANYTHING.
*
WISH "PLEASE MAY I HAVE A GLOW"
*
YOU HAVE SUDDENLY AND MAGICALLY STARTED GLOWING!
```

THE BOGGIT

CRL, £7.95 cass, all CPC models

Followers of the strait and narrow path will have already made the acquaintance of *Robin of Sherlock* and possibly even *Bored of the Rings*, two dainty little comedies from the pens of Delta 4. *The Boggit* is their latest oeuvre, being a take-off of that little-known Melbourne House adventure released a few years ago.

Those of you who may just happen to have played the original Melbourne House game will doubtless have been entranced by its interactive characters, its stunning graphics, and its tortuous gameplay. Now you can get the low-down on what life was really like in Muddle Earth, and discover not only what Bimbo Baggins does in his toilet, but why Trolls never wash their clothes.

The Boggit is standard Quill/Illustrator stuff as far as format is concerned, but Delta 4 pull their usual trick of giving the illusion of having 'interactive characters' using the TALK TO PERSON followed by SAY MESSAGE sequence of instructions. By first signalling your intention to talk and then SAYing things you can give the antiquated Quill parser the appearance of accepting some quite complex instructions.

I very much enjoyed playing this game. The layout of the adventure and the plot is sufficiently similar to the original to give one a feeling of cosy familiarity, but at almost very turn things go subtly (and sometimes unsubtly) astray. The text is lengthy and sometimes prints up screenfuls at a time in response to repeated key presses; but much of it is well-written and original, as when Bimbo wakes up with a hangover that 'contravened local strategic arms limitations.'

Like Bored of the Rings, this is a must for any player who's fed up with hair between the toes. Sometimes the good humour goes rather over the top but the puzzles are logical, challenging, and inventive. Delta 4 have been instrumental in establishing the satirical adventure as a serious contender for the empty spaces on your shelf, and this game is up to their highest standards.

	Atmosphere	Interaction	Challenge	AA-Rating
The Boggit	81%	72%	78%	80%

CLUE-SNIFFING

Okay Pilgs, here be ye Cowled Crusader's regular dose of problem solvent. Don't forget that all contributions to the Clue Pot are most welcome, so if you're bursting with helpful advice, jot it down and send it off to the **Pilgrim's CLue Pot, c/o Amstrad Action**, at the address at the front of the mag. Remember to state (1) the name of the game (2) the problem and (3) the solution.

Mordon's Quest
Don't set off on your quest without blanket, torch, and transporter.
The king of the jungle goes hippetty-hop.
Break pyrites into small pieces to get them back along the narrow crawl.

Kentilla
At the river, swing across.
Rescue Timandra from the Marshzats and return her to Zelda for a lift.
Examine the large Urga-Maul more than once.

Heroes of Karn
Beren can kill bat with falcon.
Khadim can kill Pirate with dagger.
Vampire can be killed with cross.
Witch can be killed with water.

The Boggit
Stay out of the living room until the chocs have gone off.
Use your knowledge of the calendar to enter combination.
Lux softens the toughest troll.

Price of Magik
Jewels cut mirrors.
Don't kill unnecessarily or haunting becomes a problem.

Seabase Delta
Blow bubble to wake hen.
Torch is useless.
Short-circuit switch with fork.

CHARTS

No charts this month I am afraid, but keep sending in your votes as they will be back next month!

To The Pilgrim.

My favourite three adventures are:

1. Game: ______________________

Company: ______________________

2. Game: ______________________

Company: ______________________

3. Game: ______________________

Company: ______________________

My reasons for putting game number one above as first choice are:

If I'm a lucky Pilgrim and win a free game, I should like to receive a copy of:

My address is (BLOCK CAPITALS ONLY):

Contact the Pilg!

The Pilg is particularly interested from hearing from all you Wandering Souls out there and will do his best to include your correspondence in these columns whenever space permits. Contributions to the Clue Cauldron and the Clue Pot are especially welcome, particularly for lesser-known games which may not be getting the coverage they deserve.

Please remember that I'm not a Helpline and cannot give help on individual adventurers' problems – that's what the Lords and Ladies are for, so use them well! But for the rest of you, I'm contactable **c/o *Amstrad Action*, The Old Barn, Brunel Shopping Precinct, Somerton, Somerset, TA11 7PS**, or if you have a modem, on BT Gold 83:JNL281 or on Prestel/Micronet 919994854.

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TYPE-INS

GIGO

Talk to Max Headroom

This month's lengthy listing is a bit different from anything we've ever printed before. It's unusual, witty and it has no practical use whatsoever. (Okay, so that last bit sounds a lot like most of the listings we print.)

The program's called *GIGO*, which stands for that well-known computer saying, 'Garbage In, Garbage Out'. The name's very apt, though you may have to use the program for a while to see why.

Author is 15-year-old **John Ablett**, an O-level pupil at Horbury school, Wakefield, West Yorkshire. 'This program has already proved to be extremely popular with the computer-studies group at school,' he writes.

The idea of *GIGO* is to let you hold a conversation with a little Max Headroom character at the top of the screen. Max moves his lips as a message prints up on the screen. You then type in your reply, Max mouths his reply to your reply, and so on for as long as you're typing finger(s) can stand.

Max, being a computer-generated character, has a limited vocabulary. He only knows 102 different things to say including his standard start-up greeting, 'Hi! What do you want to talk about today?' However, this doesn't mean that he has to repeat himself. He'll learn your replies, and then throw them back at you when you least expect them.

Max isn't a very intelligent guy, I'm afraid, so the things he says don't always make much sense. The surprising thing is how often they do make sense, given that he just churns his phrases out at random. He can be very witty indeed, but this usually depends on the person he's talking to. Bear in mind, for the most part he's only repeating things you've typed in – so don't insult him or he'll soon start being rude to you in return.

THE PROGRAM

The central idea of the listing is ingeniously simple. The various comments Max knows are stored in the array `r$()`, and line 90 selects from them at random. When the chosen witticism is printed it's replaced in the array by the comment you've just entered. This means Max forgets each comment as soon as he says it, so he can't repeat himself unless you do. This replacement system is very simple to implement – line 90 does all the work here.

Although you do occasionally get your comments thrown back at you almost straightaway, you can find that Max still has some of his original phrases left after half an hour's conversation.

TAKING THINGS FURTHER

One obvious development you could make yourself would be to get Max talking through some form of speech synthesiser. I've half a mind to try that myself with Superior Software's *Speech!* if



```
10 REM 'GIGO De-luxe'.Copyright J.C.Ablett,July 1986
20 MODE 1:PAPER 2:BORDER 11:SYMBOL AFTER Ø:PRINT CHR$(23);
CHR$(Ø);
30 FOR a=Ø TO 3:READ b:INK a,b:NEXT a:FOR a=1 TO 7:READ b,
c,d,e,f,g:WINDOW #a,b,c,d,e:PAPER #a,f:PEN #a,g:NEXT a:FOR
 a=1 TO 8:READ b:CLS #b:NEXT a:DATA Ø,26,11,1,19,22,3,7,Ø,
Ø,18,21,2,6,1,Ø,2,39,9,24,1,3,3,4Ø,1Ø,25,Ø,Ø,2,15,2,6,1,Ø,
3,16,3,7,Ø,Ø
4Ø DATA 25,4Ø,3,7,Ø,Ø,Ø,4,3,1,2,6,5,7
5Ø WINDOW #1,24,39,2,6:PAPER #1,1:CLS #1:WINDOW #3,3,38,1Ø
,23
6Ø LOCATE #1,1,2:LOCATE #5,1,2:PRINT #5," GIGO De-Luxe  "+
CHR$(164)+" J.C.Ablett   July 1986":PRINT #1,"  WATCH  THI
S        SPACE":LOCATE #1,5,4:PEN #1,2:PRINT #1,CHR$(242)+
"     "+CHR$(242)
7Ø FOR a=1 TO 3:READ c,d:PLOT c,385,Ø:DRAWR d,Ø:DRAWR Ø,-8
2:DRAWR -d,Ø:DRAWR Ø,82:NEXT a:PLOT 15,272:DRAWR Ø,-258:DR
AWR 61Ø,Ø:DRAWR Ø,258:DRAWR -61Ø,Ø:DATA 15,226,271,66,367,
257
8Ø DIM r$(1ØØ):FOR a=Ø TO 1ØØ:READ r$(a):NEXT a:GOSUB 23Ø:
a$="hi !,what do you want to talk about today ?":GOSUB 33Ø
:PRINT #3
9Ø r=INT(RND*1Ø1):a$=r$(r):LINE INPUT#3,r$(r):GOSUB 33Ø:PR
INT #3:GOTO 9Ø
1ØØ DATA please,thankyou,bonjour,I don't know,yes,no,possi
bly...,that's rather a rash statement to make-can you prov
e it ?,what's that got to do with me ?,i don't care,are yo
u trying to be sarcastic ?,is that meant to be a rhetorica
l question ?
11Ø DATA how should i know ?,what's that supposed to mean
?,i beg your pardon ?,well you see doctor - it's like this
...,was that supposed to be funny ?,you love me really,i'v
e run out of things to say - it's your turn now,do you com
e here often ?
12Ø DATA have you ever wondered what we're doing here ?,ni
ce weather we've been having lately,let's talk about marmo
sets,you aren't making a lot of sense,please don't contrad
ict me - i don't like it,i have this fear of being replace
d by a human
13Ø DATA pass the salt,ho-hum,gibber...gibber,can i flog y
ou a musical toilet seat ?,you don't say,well i never,who
would have thought it ?,you're only saying that to make me
 feel better,that's not a very nice thing to say,i fink yo
u spelt dat rong
14Ø DATA you don't know the half of it,if only you knew,je
 ne comprends pas,spracken sie deutsch,i heard rumours tha
t they were teaching a computer to have intelligent conver
sations,what's new ?,i won't answer that,rubbish,utter waf
fle,well.....
15Ø DATA i'll see what i can do for you,but....,this is a
recorded message.,can i help you ?,stop trying to change t
he subject,good question,i never could get to grips with h
umour,i cannot tell a lie.....
16Ø DATA it makes you feel really silly when you realise t
hat you're talking to a computer.(or a human in my case),i
 try my best,please could you type that in again ? - slowl
y,you're twisting my words,no comment,i think i'm in love
with you
17Ø DATA i like you - you're cute,that's the nicest thing
anybody's said to me all day,it makes me very happy to hea
r you type that,you don't really mean that,honestly ?,you
wouldn't be telling fibs by any chance ?,that sounds inter
esting
18Ø DATA could you explain that to me ?,that's fascinating
,i'd love to,you must be joking,you can't be serious,i qui
te agree,my sentiments exactly,never !,i wouldn't mind lea
rning to do that,sorry if i don't make a lot of sense
19Ø DATA i'll bear that in mind in future,parlez-vous fran
glais ?,i like a person with a sense of humour,it's no lau
ghing matter,i'm bored with this - let's talk about someth
ing else,o.k.,ignorance is bliss,necessity is the mother o
f invention
2ØØ DATA great minds think alike,time and tide wait for no
 man,a fool and his honey are soon parted,monday is the ro
ot of all evil,amazing how i can come up with such intelli
gent responses isn't it ?
21Ø DATA there's no money to be made from max headroom imp
ersonations,have you ever considered being a wally full ti
me ?,i'm feeling depressed,oh dear - that is dismal,person
ally speaking - i prefer marmosets,can i go home now ?,oh
please - just for me
22Ø DATA the mind boggles,i see,but of course,help-i'm a p
risoner in an amstrad computer factory typing out silly co
mments
23Ø FOR a=1 TO 2Ø:READ b,c:m$(Ø)=m$(Ø)+CHR$(b):m$(1)=m$(1)
+CHR$(c):NEXT a:DATA 32,218,234,219,235,22Ø,32,32,236,221,
237,222,238,223,239,32,24Ø,224,241,225,242,226,243,32,32,2
27,244,228,245,229,32,32,246,23Ø,247,231,248,232,249,233
24Ø FOR a=1 TO 3:a$(a)=" "+CHR$(a*2+24Ø)+CHR$(a*2+249)+" "
:NEXT a:a$(Ø)=MID$(m$(Ø),13,4):b$(Ø)="MBP":b$(1)="CDGKNRST
HZLFV":b$(2)="OAEIY":b$(3)="WQU":FOR a=37 TO Ø STEP-1:READ
 b,c,d,e,f,g,h,i:SYMBOL 255-a,b,c,d,e,f,g,h,i:NEXT a
25Ø DATA Ø,Ø,1,6,15,24,55,46,Ø,63,197,5Ø,136,1ØØ,2Ø,2ØØ,Ø,
Ø,Ø,192,96,32,16,16,116,1Ø3,239,249,234,245,238,111,98,136
,34,72,162,81,255,223,16,8,8,3Ø,62,25Ø,124,124
26Ø DATA 124,126,62,63,63,31,31,15,19Ø,186,116,122,229,233
,232,235,58,5Ø,18,146,234,13Ø,114,146,15,7,7,7,3,3,1,1,23Ø
,2Ø9,232,216,228,251,245,254,34,194,18,98,2,4,216,16Ø
27Ø DATA 1,2,7,7,15,15,31,31,255,127,159,195,224,2Ø8,24Ø,2
16,216,151,39,115,187,93,91,185,Ø,192,248,252,254,254,255,
255
28Ø DATA Ø,Ø,7,6Ø,114,137,196,16Ø,Ø,Ø,24Ø,156,38,75,23,79,
1,1,1,1,1,1,3,2,1,Ø,12,66,1,121,255,242,47,87,47,31,35,31,
255,253,128,128,128,128,128,128,192,64
29Ø DATA 2,2,2,1,Ø,Ø,Ø,Ø,236,124,5Ø,4,138,137,144,144,251,
221,237,227,115,183,95,15,192,192,128,128,Ø,Ø,Ø,Ø,151,128,
67,4Ø,16,25,55,8Ø,23Ø,22,238,1Ø8,28,6Ø,254,255
3ØØ DATA 1,7,31,127,255,255,255,255,232,228,242,241,243,25
3,249,253,127,63,99,197,1ØØ,119,2Ø7,223,128,192,248,252,25
5,255,255,255
31Ø DATA 139,14Ø,67,32,19,24,55,8Ø,23Ø,54,2Ø6,44,22Ø,6Ø,25
4,255,147,135,7Ø,34,17,24,55,8Ø,198,23Ø,11Ø,76,156,6Ø,254,
255,147,135,67,32,19,24,55,8Ø,134,198,142,76,156,6Ø,254,25
5
32Ø RETURN
33Ø LOCATE #2,1,1:PRINT #2,m$(Ø);:FOR m=1 TO LEN(a$):LOCAT
E#2,1,4:PRINT#2,a$(l):FOR b=Ø TO 3:IF INSTR(b$(b),UPPER$(M
ID$(a$,m,1)))<>Ø THEN l=b
34Ø NEXT b:PRINT #3,UPPER$(MID$(a$,m,1));:NEXT m:IF l<>Ø T
HEN FOR a=Ø TO 5ØØ:NEXT a:LOCATE #2,1,4:PRINT #2,a$(Ø):FOR
 a=Ø TO 2ØØ:NEXT a
35Ø IF INSTR(a$,"?")=Ø THEN LOCATE #2,1,1:PRINT #2,m$(1);
36Ø RETURN
```

I can find the time. The relevant routine runs from line 330 onwards, and at present it just moves Max's lips. With a bit of work, you should be able to synchronise lips, printed text and the speech itself.

Other interesting projects might involve producing hard copy on a printer, or creating a 'save comments' feature so that you can store Max's array of phrases and continue your conversation with him some other time.

What I'd really like to see is a *GIGO*-like program that actually reacts to the things you say. It doesn't have to be very clever about this: the classic program of this type, *ELIZA*, simply watches out for particular key words and responds to them. You'll undoubtedly need a much more complex program, but the results can be very rewarding indeed. If you come up with anything good, by all means send it in – we're always happy to have a chat with a reader's program!

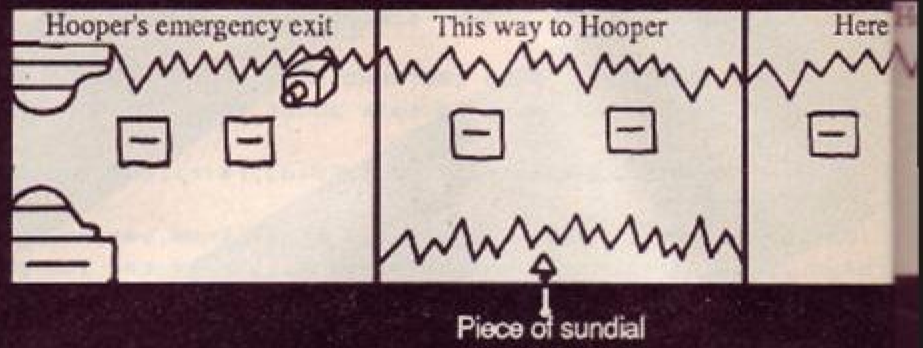
KNIGHT TYME

A full playing guide

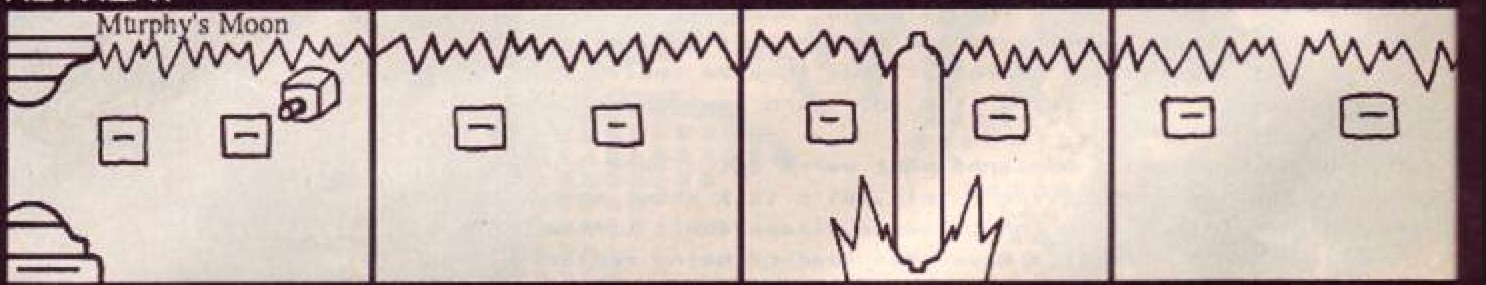
The response to our challenge to produce a map and playing guide of the Mastertronic classic has been absolutely overwhelming. This guide was put together from many different contributions but we'd like to thank everyone who sent something in. The best contributors are named as prize winners on the general cheat mode pages.

The maps of the planetary system and detailed locations should help you find your way around and get hold of most of the objects needed. We don't want to give too much away though, so although we've had many solutions in we're only printing some general tips to help you. We've also had a Poke in from the amazing TONY HOYLE of St Annes (who cracked *Sorcery Plus* for us a while back). His latest effort provides infinite energy and fuel and prevents characters refusing to obey your commands. To enter the Poke, use Method 1.

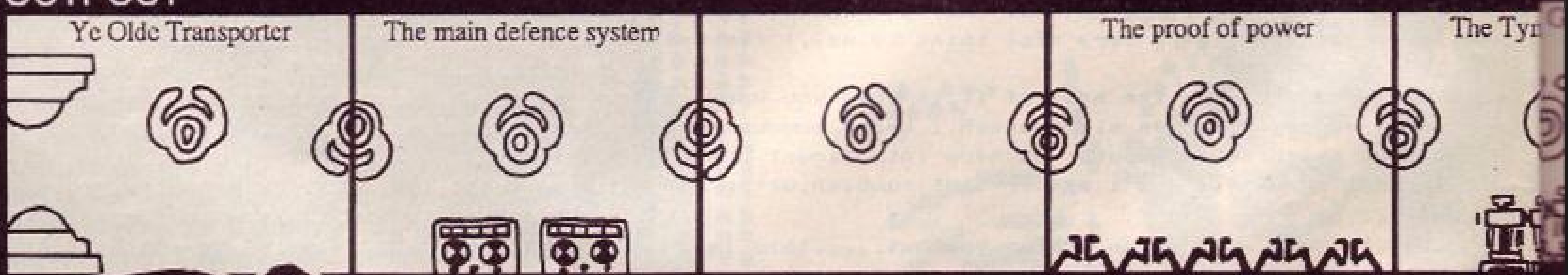
MONOPOLE



RETREAT

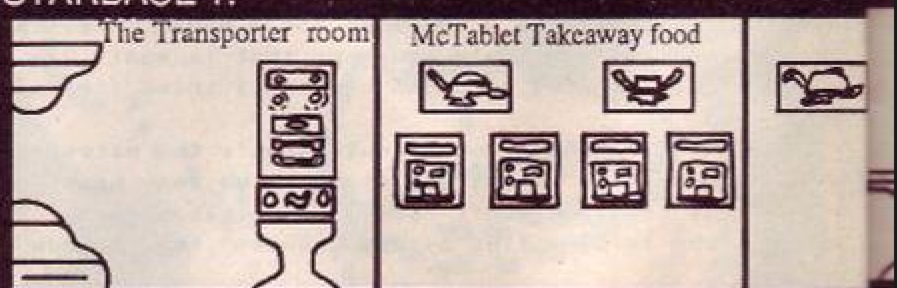


OUTPOST

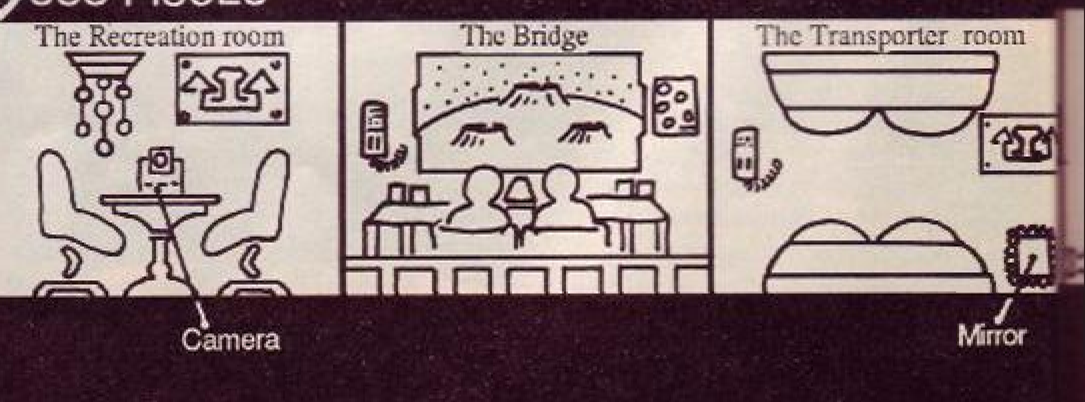




STARBASE 1.



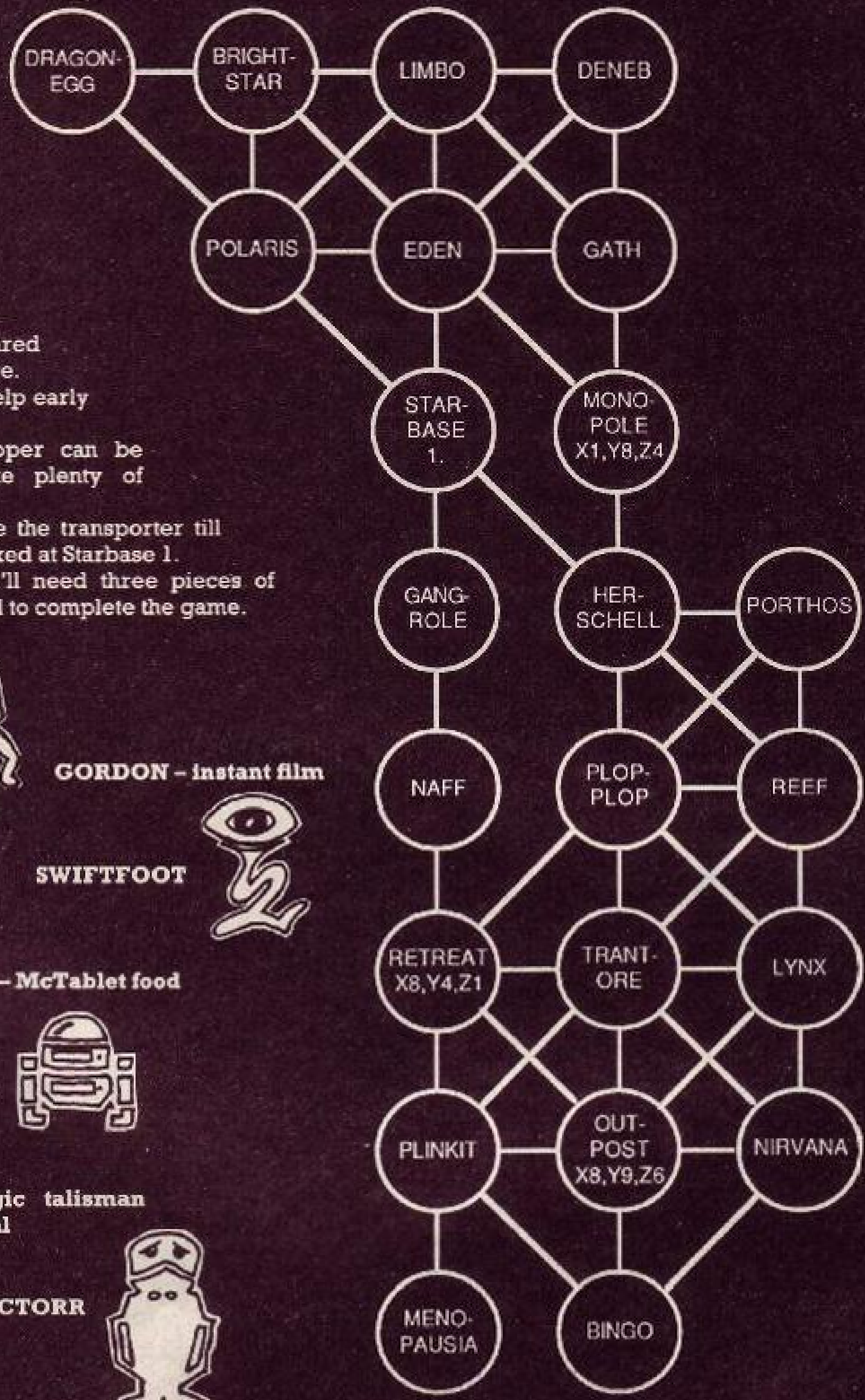
USS PISCES



General Tips

1. Examine everyone and everything that you can.
2. If characters are uncooperative they may well need fortifying.
3. It's very easy to forget that you are or aren't wearing something, which could account for not being able to perform a task.
4. All the objects that appeared in *Spellbound* are no use here.
5. Derby IV is a lot of help early on.
6. Getting to Hooper can be hazardous so take plenty of protection.
7. Don't use the transporter till you get it fixed at Starbase 1.
8. You'll need three pieces of sundial to complete the game.





The Characters

Here's a list of the characters you'll encounter and what they carry.

SHARON – advert and gas mask



GORDON – instant film

DERBY IV – blank ID card and chocolate heart

SWIFTFOOT

KLINK – 10 MW laser



SARAB – McTablet food



FORBIN

S3 E3 – pot of glue



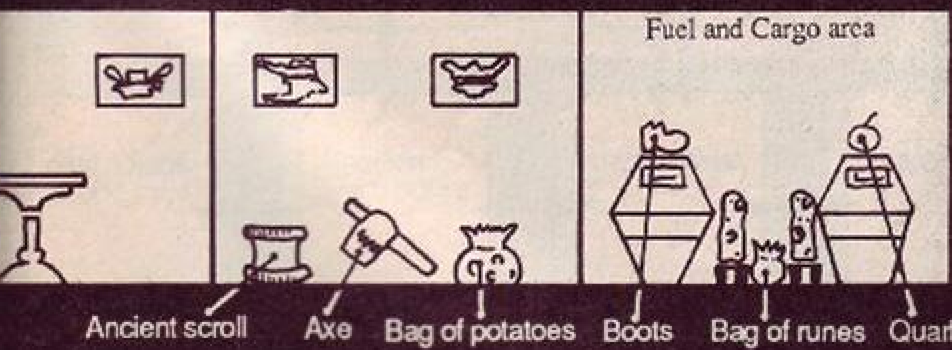
JULIE 8

HOOPER – magic talisman and part of sundial

MURPHY – part of sundial

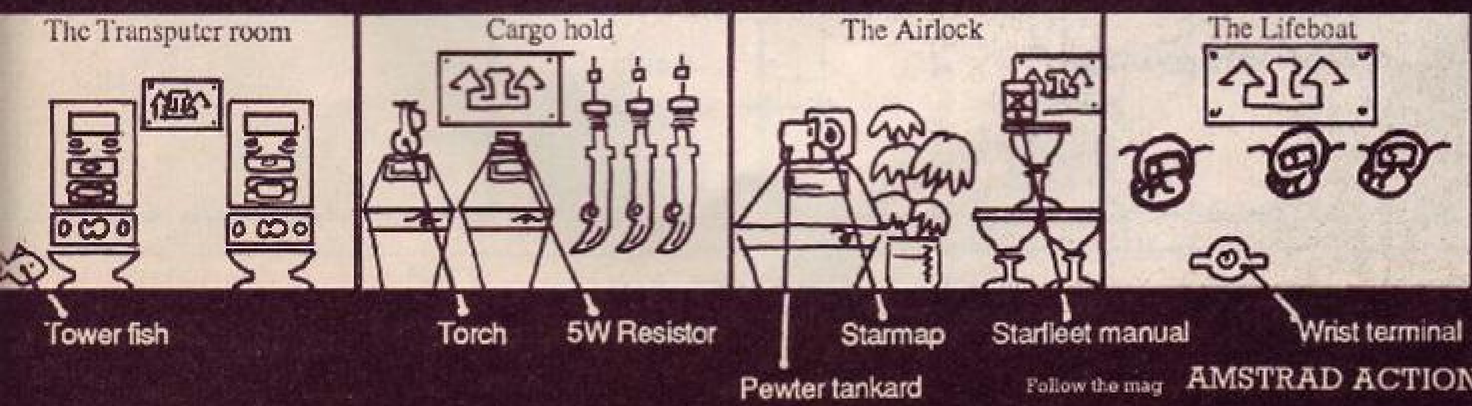
HECTORR



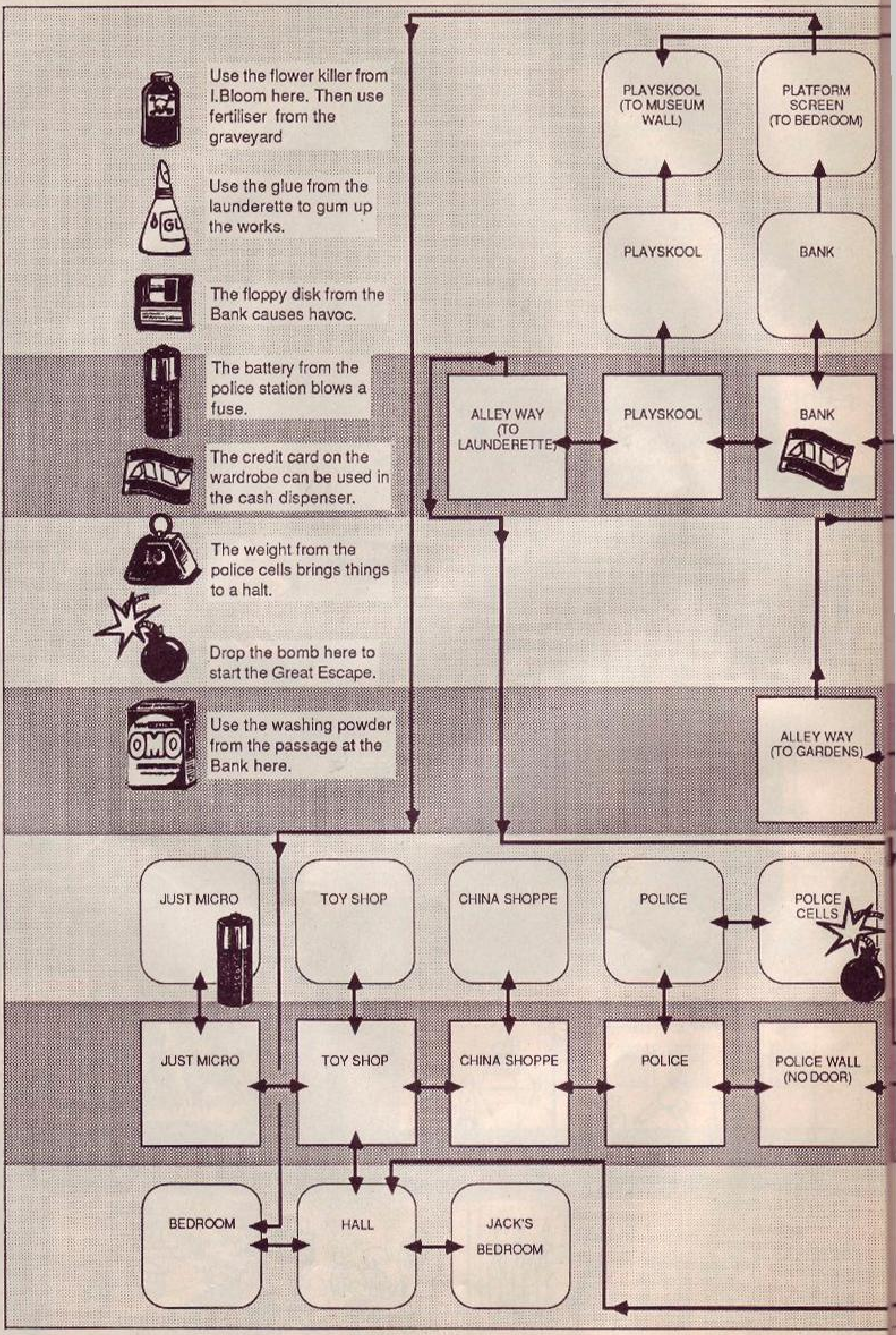


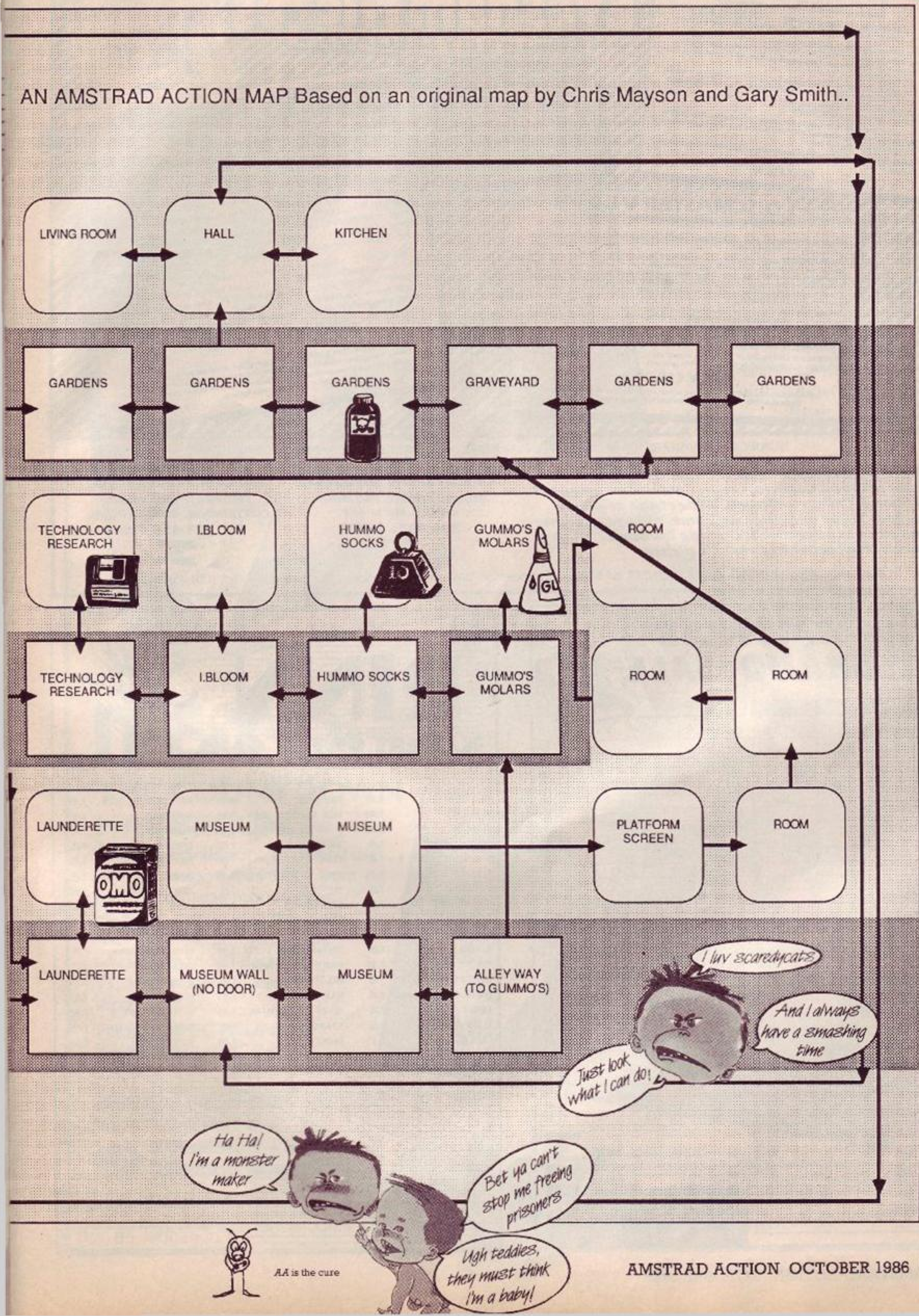
The Poke

```
10 INK 0,0:CLS
20 INK 1,26:INK 2,11:INK 3,18:BORDER 0:MEMORY 4999:LOAD"!KT$":CALL 5000
30 LOAD"!KTcode":LOAD"!ktgrx",49152
40 POKE &1923,0
50 POKE &2112,0:POKE &2113,0:POKE &2114,0:POKE &215C,0
60 POKE &2932,0
70 CALL 5000
```



JACK THE NIPPER




AN AMSTRAD ACTION MAP Based on an original map by Chris Mayson and Gary Smith..
LIVING ROOM
HALL
KITCHEN
GARDENS
GARDENS
GARDENS
GRAVEYARD
GARDENS
GARDENS
TECHNOLOGY RESEARCH
I.BLOOM
HUMMO SOCKS
GUMMO'S MOLARS
ROOM
TECHNOLOGY RESEARCH
I.BLOOM
HUMMO SOCKS
GUMMO'S MOLARS
ROOM
ROOM
LAUNDERETTE
MUSEUM
MUSEUM
PLATFORM SCREEN
ROOM
OMO
LAUNDERETTE
MUSEUM WALL (NO DOOR)
MUSEUM
ALLEY WAY (TO GUMMO'S)
I luv scaredycats
And I always have a smashing time
Just look what I can do!
Ha Ha! I'm a monster maker
Bet ya can't stop me freeing prisoners
Ugh teddies, they must think I'm a baby!
AA is the cure

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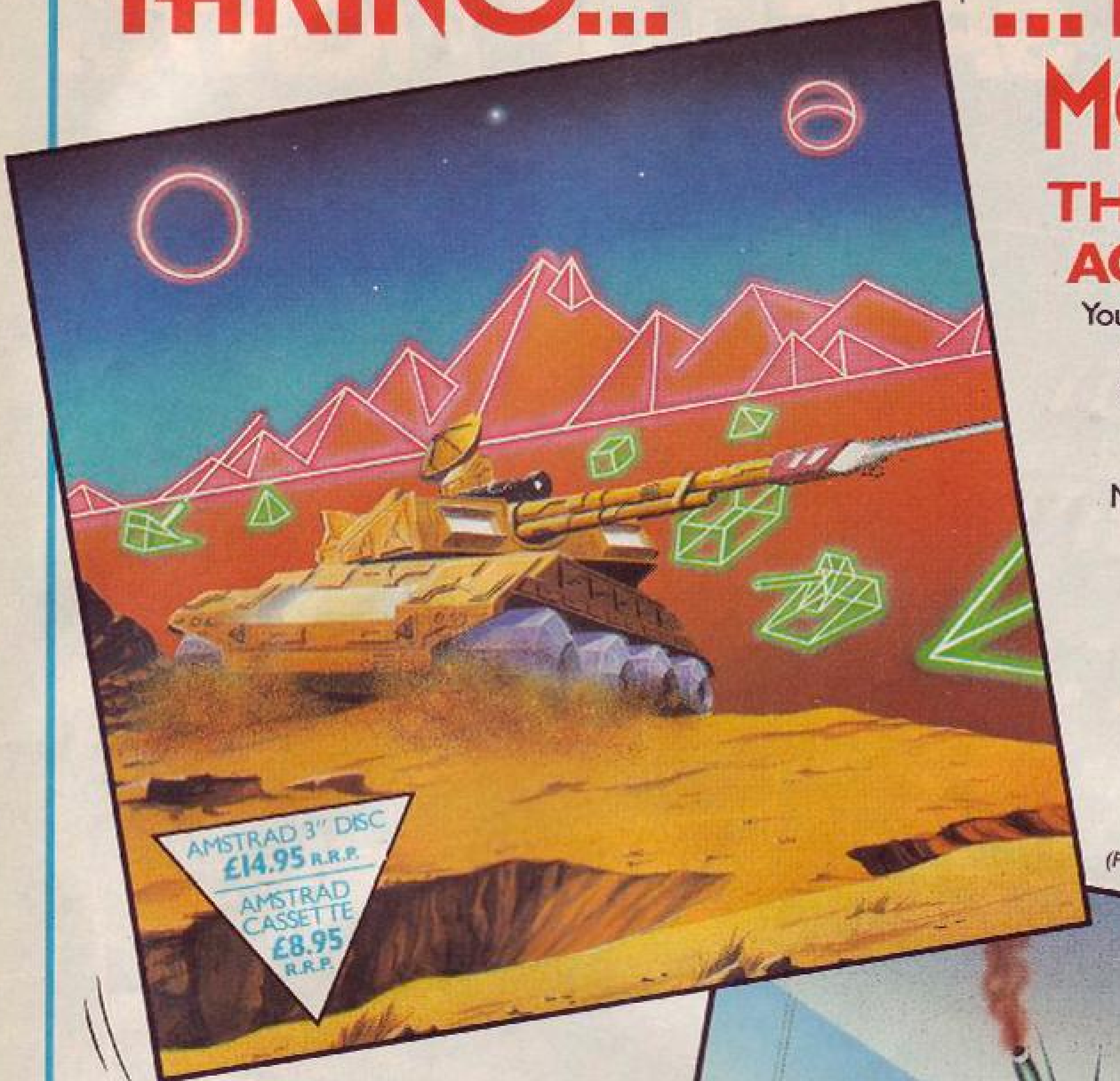
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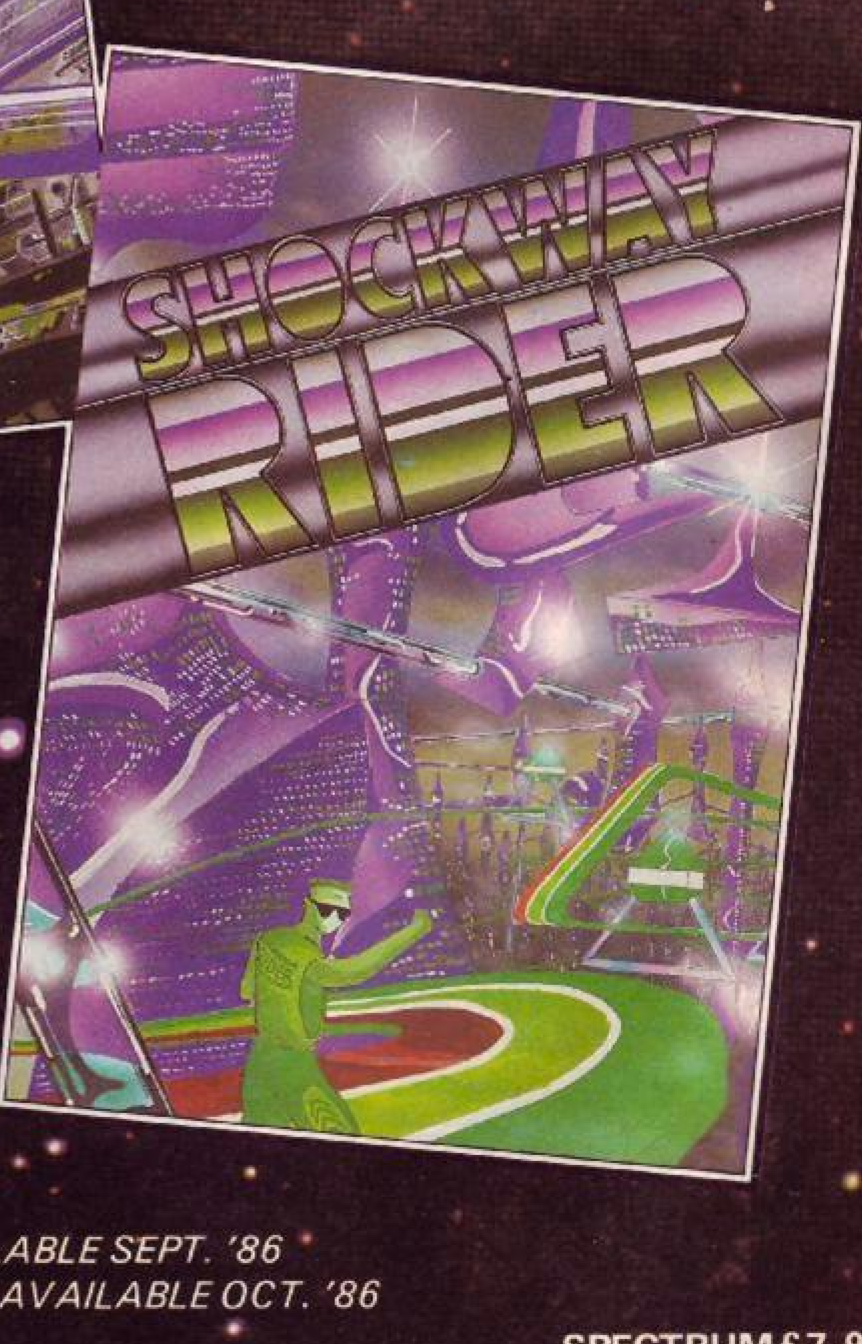
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Saboteur

This poke from Timothy Lomas of Sanderstead gives infinite strength on the Durell game and is entered using Method 1.

```
10 MODE 1
20 INK 0,0
30 INK 1,1
40 INK 2,6
50 INK 3,24
60 BORDER 1
70 MEMORY 5000
80 LOAD"!1",49152
90 LOAD"!2",25200
100 LOAD"!3",6000
110 LOAD"!4",16419
120 LOAD"!5",23296
130 BORDER 0
140 LOAD"!6",49152
150 POKE 24210,0
160 CALL 23431
```

CLASSIC INVADERS

This poke from R Jackson of Barnard Castle stops the aliens dropping bombs (except UFOs) and is entered using Method 2 to skip the first three blocks of the program called "INVADERS".

```
10 MEMORY 16499
20 x=16500
30 FOR f=1 TO 12:READ a:POKE
 x,a:x=x+1
40 NEXT f
50 CALL 16500
60 POKE 18658,0
70 CALL 16896
80 DATA 62,22,17,101,66,33,0
,66,205,161,188,201
90 END
```

CHEAT MODE

Bob Wade checks out your tips, pokes and game-busting ploys. The best ones could win a entire issue's *AA* Raves! So why not send YOUR latest gem to: Cheat Mode, *Amstrad Action*, Somerton, Somerset, TA11 5AH.

Into Oblivion

G Upton from Telford has a Method 1 poke that removes all the monsters from the Mastertronic game.

```
10 MEMORY 4999
20 LOAD"IO",5000
30 POKE &3232,0
40 CALL 5003
```

CAREFUL!
This poke actually alters your £15 disk game. It contains error traps where possible, and should not cause problems if used carefully. But we cannot take any responsibility if you should corrupt your disk.

SORCERY PLUS

Tony Hoyle from St Annes and Paul Hutchinson from Styvechale both rose brilliantly to our August challenge with solutions to the problem of invulnerability to water. The pokes are very different so we're printing both of them and we're sure you'll love them.

First Tony's poke, which as well as stopping you from drowning in the water allows you to access the practice mode automatically. To use it just type it in, put the disk in the drive, type RUN and choose from the menu which poke you want to enable. For future use you should save the poke onto the game disk. The program actually alters the game so take great care in typing it and using it. Don't forget the disk must not be write protected (the tabs on the disk should be up), or it won't work. If you RUN the poke again you can toggle the two cheat modes on and off as you want.

A few seconds after the sorceror drops in the water he will reappear above it, after several other graphic characters have flicked up on screen – try it, it's fun. The practice mode is enabled by holding down the 'C' key and pressing fire when starting the game.

Poke One

Paul's poke is just as classy and does some other great things as well. To use this one just type it in and save it onto the game disk, then just run it each time you want to load the game, as the poke automatically runs the game for you.

The poke actually prevents the sorceror falling into the water – instead he just floats on top of the waves. In addition it gives you infinite energy and infinite time to complete the task.

```
10 CLS:PRINT"1-Walk on water
":PRINT:PRINT"2-Practice mod
e":a$="":WHILE a$()"1" AND a
$()"2":a$=INKEY$:WEND:m=VAL(
a$)
20 IF m=1 THEN RESTORE 140 E
LSE RESTORE 150
30 x=&8000:csum=0
40 READ a$:IF a$()"xx" THEN
POKE x,VAL("&"+a$):csum=csum
+VAL("&"+a$):x=x+1:GOTO 40
50 READ a:IF a()csum THEN PR
INT"Error in data":END
60 CALL &8000:CLS
70 IF m=1 THEN 110
80 IF PEEK (&4138)=&66 THEN
PRINT"Practice mode off"
90 IF PEEK (&4138)=&36 THEN
PRINT"practice mode on"
100 PRINT:END
110 IF PEEK (&41C2)=&BA THEN
 PRINT"Walk on water off"
120 IF PEEK (&41C2)=&39 THEN
 PRINT"Walk on water on"
130 PRINT:END
140 DATA 3e,84,32,2f,80,cd,1
5,80,3a,c2,41,ee,83,32,c2,41
,3e,85,32,2f,80,21,2f,80,cd,
d4,bc,22,30,80,79,32,32,80,1
e,00,16,08,0e,c5,21,00,40,df
,30,80,c9,xx,4528
150 DATA 3e,84,32,37,80,cd,1
d,80,3a,38,41,ee,d0,32,38,41
,3a,39,41,ee,96,32,39,41,3e,
85,32,37,80,21,37,80,cd,d4,b
c,22,38,80,79,32,3a,80,1e,00
,16,08,0e,c2,21,00,40,df,38,
80,c9,xx,5122
```

Poke Two

Congratulations to both Tony and Paul – they are fantastic pieces of work well worthy of reward.

```
10 MEMORY &3FFF
20 z=&4000:GOSUB 110
30 LOAD"sorceryp",&8000
40 POKE &8004,4
50 CALL &4000
60 POKE &8063,&C9
70 CALL &8018
80 POKE &4067,&43:POKE &4068
,&41
90 z=&4143:GOSUB 110
100 CALL &4000
110 FOR 1=0 TO 24
120 READ b$
130 POKE z,VAL("&"+b$):z=z+1
140 NEXT
150 RETURN
160 DATA 21,18,80,3a,00,80,a
e,77
170 DATA 2c,20,fb,21,04,40,3
4,20
180 DATA 07,7e,fe,18,28,f8,1
8,e8
190 DATA c9
200 DATA 3e,00,32,67,78,32,d
9,85
210 DATA 32,31,86,3e,18,32,d
4,77
220 DATA 3e,00,32,65,92,c3,0
0,70
230 DATA 00
```

STORM

It seemed quite a coincidence this month when two mega-pokes came in for the Mastertronic game, both along similar lines. It didn't take long to work out that they came from next door neighbours in Aylesbury. So congratulations Stephen Stokes and Simon Hearn on two excellent efforts for which you deserve equal credit I'm sure. We're actually using Stephen's version and he also sent in a map that helped to produce our own map this issue. Well done lads – perhaps you'd like to collaborate on your next project to save confusing us? The poke's entered using Method 1 and allows you to change all sorts of things that the program will ask you about towards the end of the loading procedure.

```
10 MEMORY &35BF
20 LOAD"des",&35C0
30 LOAD"sprites",&7D74
40 LOAD"envelo",&5500
50 FOR ad=&40 TO &D5 STEP 10
60 checksum=0:FOR ad2=ad TO ad+9
70 READ v$
80 n=VAL("&"+v$)
90 POKE ad2,n
100 checksum=checksum+n
110 NEXT ad2
120 count=count+1:READ ch$:IF VAL("&"+ch$)()checksum THEN PRINT"Checksum error in line";count*10+360:END
130 NEXT ad
140 PRINT"Immortality Y/N?"
150 a$=INKEY$:IF a$=""THEN 150
160 IF a$="y" OR a$="Y"THEN POKE &CF,255
170 PRINT"Extra energy Y/N?"
180 a$=INKEY$:IF a$=""THEN 180
190 IF a$="y" OR a$="Y"THEN POKE &C8,255
200 PRINT"Infinite scrolls and amulets Y/N?"
210 a$=INKEY$:IF a$=""THEN 210
220 IF a$="y" OR a$="Y"THEN POKE &CB,255:POKE &CD,255
230 PRINT"Infinite masks Y/N?"
240 a$=INKEY$:IF a$=""THEN 240
250 IF a$="y" OR a$="Y"THEN POKE &CC,255
260 PRINT"Infinite keys Y/N?"
270 a$=INKEY$:IF a$=""THEN 270
280 IF a$="y" OR a$="Y"THEN POKE &CE,255
290 PRINT"Entrance to wizard's room open Y/N?"
300 a$=INKEY$:IF a$=""THEN 300
310 IF a$="y" OR a$="Y"THEN POKE &C9,255
320 PRINT"Entrance to doors with special keys open Y/N?"
330 a$=INKEY$:IF a$=""THEN 330
340 IF a$="y" OR a$="Y"THEN POKE &CA,255
350 INK 0,0:INK 1,0:INK 2,0:INK 3,0:BORDER 0
360 CALL &40
370 DATA 06,04,21,d2,00,11,00,c0,cd,77,312
380 DATA bc,21,70,01,cd,83,bc,3a,c8,00,45c
390 DATA fe,00,28,09,21,50,c3,22,c3,01,349
400 DATA 22,bd,01,3a,c9,00,fe,00,28,05,30e
410 DATA 3e,c3,32,a5,28,3a,ca,00,fe,00,402
420 DATA 28,08,3e,c3,32,bd,28,32,b1,28,353
430 DATA 3a,cb,00,fe,00,28,05,3e,00,32,2a0
440 DATA 00,11,3a,cc,00,fe,00,28,05,3e,280
450 DATA 00,32,65,11,3a,cd,00,fe,00,28,2d5
460 DATA 05,3e,00,32,f3,10,3a,ce,00,fe,37e
470 DATA 00,28,0b,21,00,00,22,fc,19,3e,1c9
480 DATA 00,32,fe,19,3a,cf,00,fe,00,28,378
490 DATA 08,3e,c3,32,cd,14,32,52,18,cd,385
500 DATA ff,bb,c3,70,01,00,00,00,00,00,2ee
510 DATA 00,00,00,00,00,00,47,41,4d,45,11a
```

V

Duncan McKee from Durham tells you how to set the bombs on this Ocean game. Just set the bomb clock to the first four digits of the clock above the score and press the key next to it.

The Covenant

You're in for a real treat this month because the programmer of *The Covenant*, Paul Hutchinson (see the *Sorcery Plus* pokes as well), has sent in his own pokes for the game. The listing is entered using Method 2 to skip the first block called "COVENANT". It stops you dying and is currently set to open all the doors.

For those who understand these things you might be interested in line 90, where the binary number represents a series of flags. These perform various functions: bit 7 isn't shown and is not used; bit 6 opens the doors when set; bit 5 set means you have collected the parchment, and therefore ends the game as soon as you start it; bit 4 when set makes a captured creature appear on status; and setting bits 3, 2, 1, and 0 let you play around with what creatures you get (set them all to one to get none at all).

```
10 MEMORY 4999
20 FOR 1=0 TO 14
30 READ b$
40 POKE 42544+1,VAL("&"+b$)
50 NEXT
60 CALL 42544
70 DATA 21,88,13,11,a8,92,3e,16,cd,a1,bc,d2,0,0,c9
80 POKE 11377,195
90 POKE 11773,&X10000000
100 CALL 10887
```

How to win an ENTIRE ISSUE'S Rave software!

If you want to win an entire issue's rave software, including the Mastergame, then all you have to do is produce an excellent map, poke or playing tips. We've set you a number of challenges but if you can produce something even better then feel free – you'll have just as much chance of winning a prize.

The best solution will win a copy of every Rave and the Mastergame from the issue in which the solution is printed. The number of games will vary of course, but in past issues there have been six Raves or more – that's over £80 of software and some months it may top £100. The prizes will usually be on cassette, unless you request disk software of the equivalent value. We also give out five runners-up prizes every month of one of the Raves/Mastergame in that issue.

The first winners are revealed this issue, and what a tremendous battle it's been – you all deserve great congratulations. We were flooded by *Knight Tyme* solutions, maps, high quality pokes and playing tips. However, from out of the pack appeared one worthy winner – **Tony Hoyle**, who not only cracked *Sorcery Plus* first but also came up with a poke for *Knight Tyme*. Well done Tony a much deserved prize.

The runners-up also did extremely well, and the five prizes go to: **Paul Hutchinson** for *Sorcery Plus* and *Covenant* pokes, **Chris Mayson/Gary Smith** for their *Jack the Nipper* map, **Stephen Stokes/Simon Hearn** for their *Storm* pokes, **Ian Curry** for his *Knight Tyme* map and tips, and **Laurence Molloy** for his *Knight Tyme* map and tips. Well done all and now you can get cracking on these challenges.

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2.		
3.		
4.		
5.		

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2.		
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You can help us out at AA, and give your type-ins a far better chance of being published, by filling out this form and wrapping it around your cassette with a rubber band. It would also be an idea if you send it in a jiffy bag as an awful lot of cassettes arrive here damaged.

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Address..

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....Postcode..........................

TITLE..

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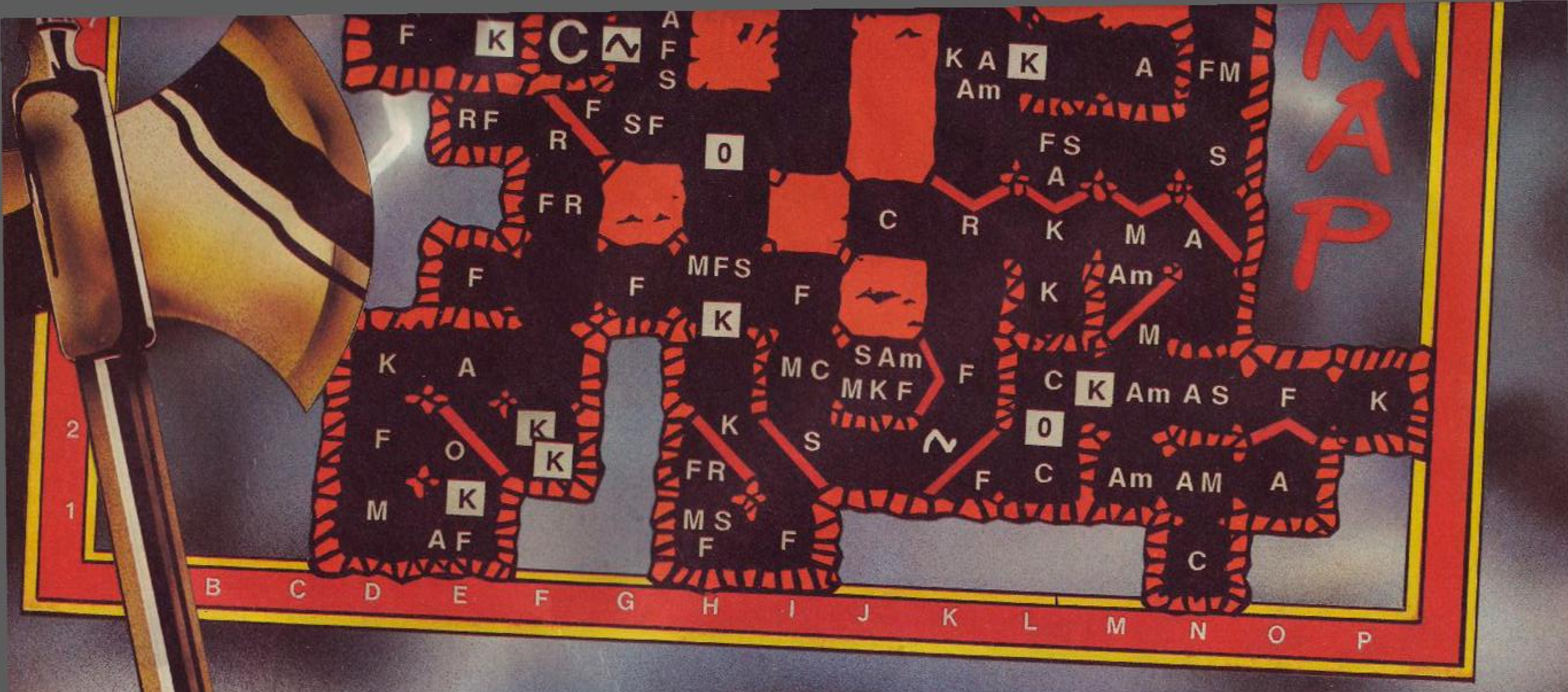
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S	Scroll	K	key	0	Door opened by special key
Am	Amulet	~	Snake broach	~	Door opened by snake broach
C	Chest	S	Starting screen		
F	Food	C	Princess Corrine		
A	Armour	K	Door opened by key		
M	Mask				
R	Restorative fluid				
O	Special key				

mapped by
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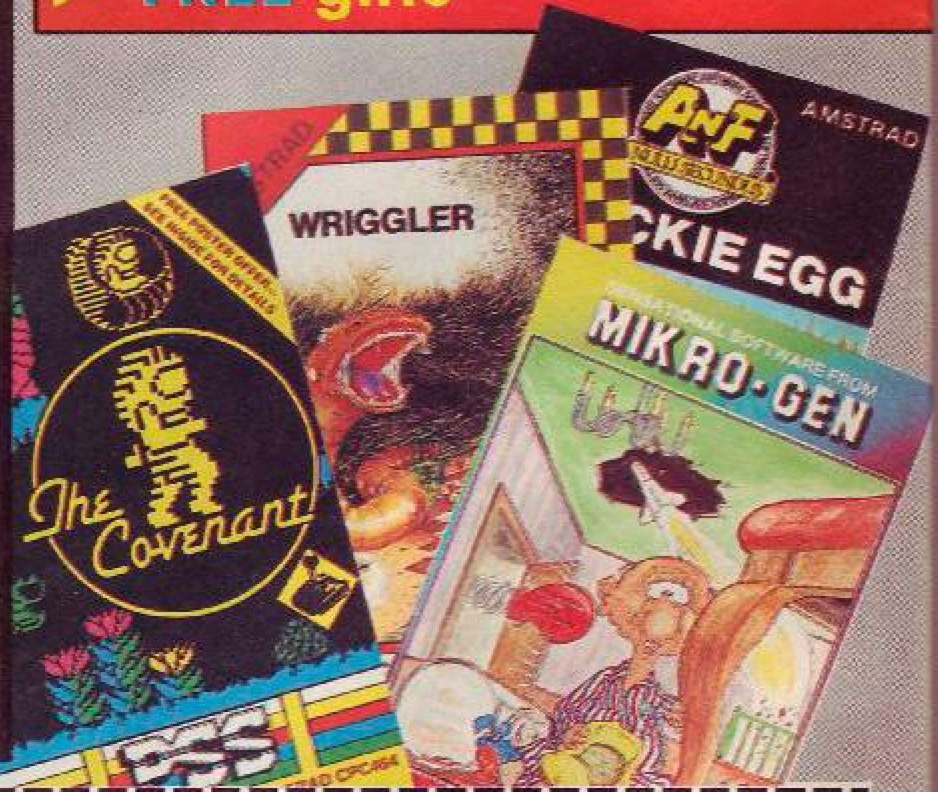
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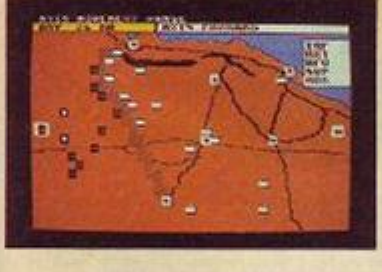
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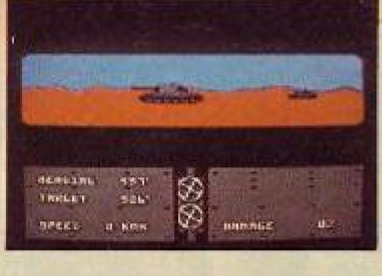
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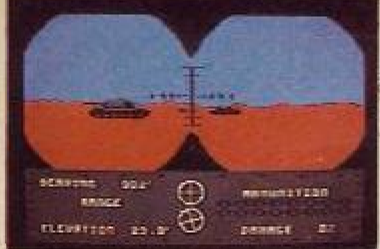
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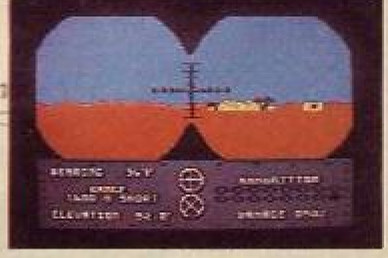
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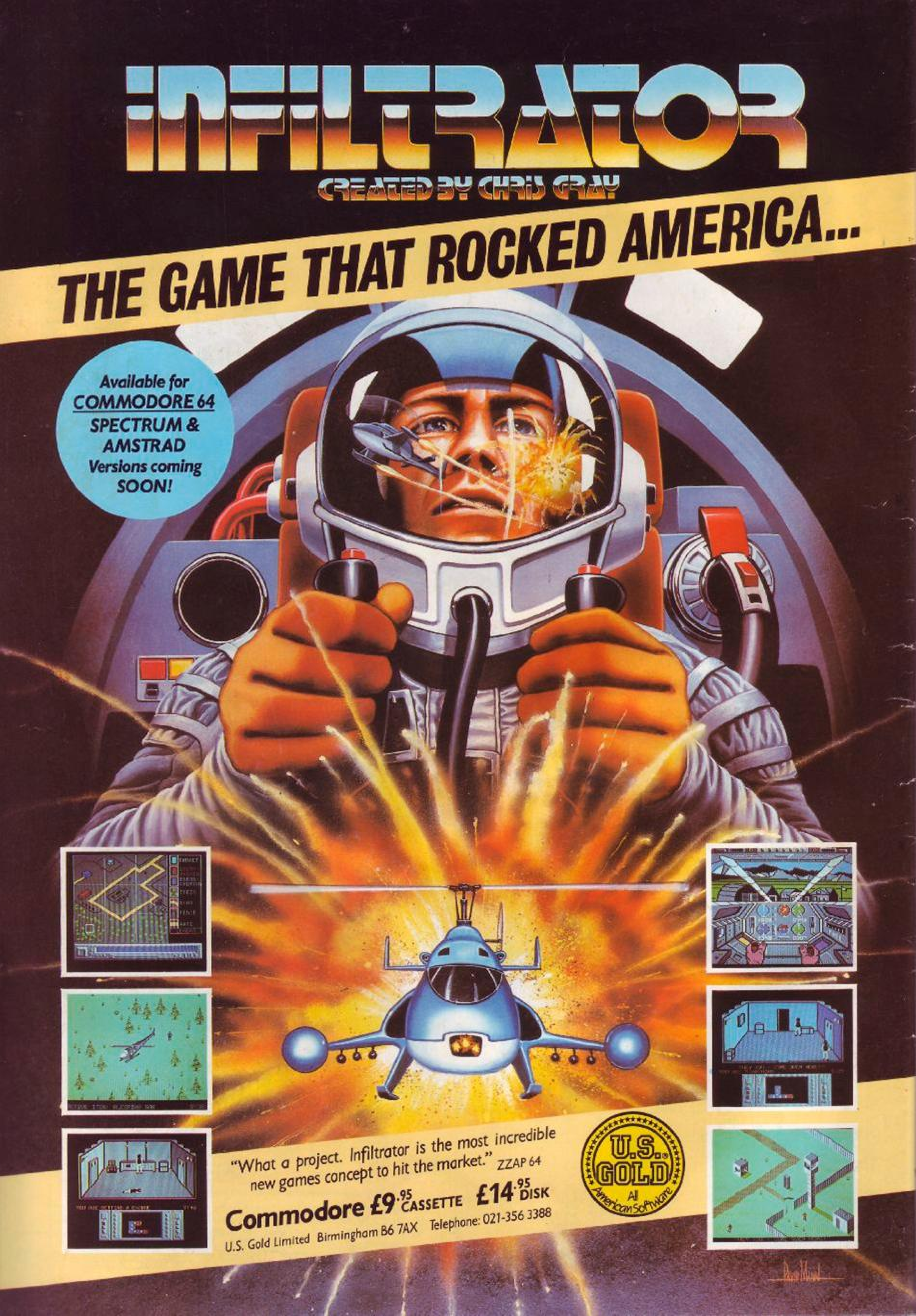
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